

# HELMINTHOLOGICAL ABSTRACTS

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**BIBLIOGRAPHY OF HELMINTHOLOGY**  
For the Year 1949



**COMMONWEALTH BUREAU OF AGRICULTURAL PARASITOLOGY  
(HELMINTHOLOGY)**

Winches Farm Drive, Hatfield Road,  
St. Albans, England

*July, 1950*

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COMMONWEALTH BUREAU OF HELMINTHOLOGY  
(HELMINTHOLOGY)

Wentworth House, 100, Victoria Road,  
London, E.C. 1, England

# HELMINTHOLOGICAL ABSTRACTS

Vol. 18, Part 4

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INCORPORATING BIBLIOGRAPHY OF HELMINTHOLOGY

FOR THE YEAR 1949

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## 293—Acta Medica Italica di Malattie Infettive e Parassitarie.

- a. CODELEONCINI, E., 1949.—"Studio statistico sulle parassitosi intestinali nello Scioa." 4 (7), 174-178. [English, French & German summaries p. 178.]

## 294—Acta Medica Scandinavica.

- a. HERNBERG, C. A., 1949.—"Roentgenological visualization of the fish tapeworm, *Diphyllobothrium latum*, in the intestine of man. A preliminary report." 135 (2), 138-141.

## 295—Acta Zoologica et Oecologica, Universitatis Lodzensis.

- a. SANDNER, H., 1949.—"Contribution à la connaissance de la faune parasitaire des Batraciens des environs de Varsovie." Sectio III, No. 12, 28 pp. [Polish summary pp. 27-28.]

(295a) Sandner in an extensive survey examined 675 specimens of batrachians including *Triturus cristatus*, *T. vulgaris*, *Bombina bombina*, *Pelobates fuscus*, *Bufo viridis*, *B. bufo*, *Hyla arborea*, *Rana terrestris*, *R. temporaria*, *R. esculenta*, and found occurring among them *Polystomum integerrimum*, *Diplodiscus subclavatus*, *Gorgoderina vitelliloba*, *Gorgoderina cygnoides*, *Haplometra cylindracea*, *Opisthioglyphe ranae*, *Dolichosaccus rastellus*, *Pneumonoeces variegatus*, *Pleurogenes claviger*, *Pleurogenoides medians*, *Prosotocus confusus*, *Brandesia turgida* and *Echinorhynchus haeruca*, all of which had previously been recorded in Poland. He also records for the first time *Gorgoderina vitelliloba* forma *olssoni* n. forma, *Pneumonoeces similis*, *P. asper*, *Pleurogenes loossi*, *Echinostomum* sp. (larva), *Codonnocephalus urnigerus* (larva), *Tetracotyle crystallina* (larva), *Tylodelphys rachiaea* (larva), and *Nematotaenia dispar*.  
C.R.

## 296—Afrique Française Chirurgicale.

- a. CURTILLET, E., 1949.—"La cure chirurgicale des petits kystes hydatiques du poumon." Year 1949, No. 3/4, pp. 78-80.  
b. HEBRAUD, A. & NICOL, J. Y., 1949.—"Kyste hydatique développé dans le méso-appendice." Year 1949, No. 5/6, pp. 121-122.  
c. COSTANTINI, H., 1949.—"Echinococcose péritonéale calcifiée—nombre de kystes réduit à quatre—exérèse en un temps." Year 1949, No. 5/6, pp. 124-125.  
d. LIARAS, H., 1949.—"Kyste hydatique de l'extrémité supérieure du tibia." Year 1949, No. 5/6, pp. 125-126.  
e. GOINARD, P., 1949.—"Bourrage à l'épiploon des grandes cavités hydatiques du foie." Year 1949, No. 5/6, p. 131.  
f. CURTILLET, E., 1949.—"Tactique et technique opératoires dans le kyste hydatique simple du poumon." Year 1949, No. 7/8, pp. 147-150.  
g. CURTILLET & JASSERON, 1949.—"La pression intra kystique des kystes hydatiques. (Note préliminaire)." Year 1949, No. 7/8, pp. 165-166.  
h. LARMANDE, A. M., 1949.—"A propos de 7 cas de kystes hydatiques de l'orbite opérés en 18 mois." Year 1949, No. 7/8, pp. 183-184.

## 297—Agricultural Ireland.

- a. O'CONNOR, R., 1949.—"The potato root eelworm." 6 (9), 197, 199, 201.

(297a) Potato sickness due to *Heterodera rostochiensis*, which was first observed in Ireland in 1922 in the coastal regions where early potatoes are grown, has within the past few years spread inland and many intensive growers have now been forced out of

\* Titles so marked throughout this number have not been seen in the original.



production. Control is very difficult. It is stated that three cysts containing 600 to 800 viable eggs per c.c. of soil can produce potato sickness in its most severe form. Biological and chemical control measures are briefly summarized but are not thought likely to be applicable on a field scale. R.T.L.

### 298—Algérie Médicale.

- a. HADIDA, E., HUGUENIN, A., DESCUNS, P. & MIGUÈRES, J., 1949.—"Echinococcose de la voûte crânienne avec image lacunaire." 53 (7), 278-280.

### 299—América Clínica.

- \*a. KENNY, M. & HEWITT, R., 1949.—"Tratamiento de la filariasis bancrofti con hetrazan en la Guayana Inglesa." 14 (6), 505-512.

(299a) [This is a translation of a paper in *Amer. J. trop. Med.*, 1949, 29 (1), 89-114. For abstract see *Helm. Abs.*, 18, No. 2b.]

### 300—American Journal of Medical Technology.

- \*a. WALLACE, F. G., 1949.—"Parasite problems in veterans." 15 (1), 30-34.  
b. HITCHCOCK, D. J., 1949.—"Parasites transmitted from animals to man." 15 (5), 258-263.

### 301—American Journal of Nursing.

- \*a. BROWN, H. W., 1949.—"Filariasis." 49 (2), 84-87.

### 302—American Midland Naturalist.

- a. RAUSCH, R. & TINER, J. D., 1949.—"Studies on the parasitic helminths of the North Central States. II. Helminths of voles (*Microtus* spp.). Preliminary report." 41 (3), 665-694.  
b. RAUSCH, R., 1949.—"Observations of the life cycle and larval development of *Paruterina candelabraria* (Goeze, 1782) (Cestoda: Dilepididae)." 42 (3), 713-721.  
c. RIPSOM, C. A., 1949.—"Reduction of the time factor in rearing *Australorbis glabratus*." 42 (3), 757-758.

(302a) A total of 648 individuals of *Microtus p. pennsylvanicus*, *M. p. drummondii* and *M. ochrogaster*, collected in Ohio, Indiana, Illinois, Michigan, Wisconsin, and in Manitoba (Canada), were examined for helminths. Twenty-one species were found, some of which are considered to be accidental infections. The host-parasite relationships of each species and its occurrence in other mammals in the area are discussed. Population fluctuation of the voles is also discussed in relation to parasitism, but no definite connection was found. Both quantitative and qualitative differences in helminth infections appeared to be seasonal or geographical in nature. With the exception of *Mediogonimus ovilacus*, none of the parasites appeared to be pathogenic. E.M.S.

(302b) When gravid segments of *Paruterina candelabraria* obtained from a naturally infected owl were fed to laboratory mice, white-footed mice and hamsters, heavy infections of the liver with cysticercoids resulted. The histological changes in the liver resembled those caused by other cestode larvae. When four infected mice were fed to a captive great horned owl more than 60 immature specimens of *P. candelabraria* were obtained on post-mortem seven days later. R.T.L.

(302c) *Australorbis glabratus* eggs hatched in filtered river water in 13 days and transferred to aquaria inoculated with a wild culture of green algae, chiefly *Oscillatoria*, grew more rapidly and became mature and oviposited in 63 days, i.e. 17 days earlier than those fed on lettuce only. Oviposition was slowed at pH 7.8 and ceased at pH 8.2, but was resumed when the pH returned to 7.2. Pieces of blackboard chalk were used to provide calcium and to maintain the pH at near neutrality. In one culture the eggs took six days to hatch and the snails oviposited 36 days later. R.T.L.



## 303—Anais Paulistas de Medicina e Cirurgia.

- a. AMARAL, A. D. F., 1949.—"Norma de exame de fezes para o diagnóstico das parasitoses intestinais." 57 (5), 408-409.

## 304—Anales del Instituto de Biología. Mexico.

- a. TRAVASSOS, L., 1949.—"Contribuição ao conhecimento dos Trichostrongylidae de *Tamandua tetradactyla* (L.) (Nematoda)." 20 (1/2), 251-269.  
 b. VARGAS, L. & RUIZ REYES, F., 1949.—"*Simulium exiguum* infectado con microfilarias de *Onchocerca volvulus*." 20 (1/2), 271-274. [English summary p. 274.]  
 c. BRAVO H., M., 1949.—"Nota acerca de *Acuaria* (*Cheilospirura*) *hamulosa* (Diesing, 1851), nemátodo parásito de *Gallus gallus domesticus*." 20 (1/2), 275-278.  
 d. CABALLERO y C., E., 1949.—"Estudios helmintológicos de la región oncocercosa de México y de la República de Guatemala. Nematoda, 5a Parte." 20 (1/2), 279-292.  
 e. ZERECERO y D., M. C., 1949.—"Acerca de una nueva especie del género *Plagiorchis* Lühe, 1899; en el intestino de *Tyrannus* sp. (Aves, Passeriformes, Tyrannidae)." 20 (1/2), 293-299.

(304a) Travassos describes some new trichostrongyle parasites from *Tamandua tetradactyla tetradactyla* in Brazil. *Graphidiops major* n.sp. can be recognized by the shape and size of the spicules. *G. ruschii* n.sp., of which only the male is known, is distinguished by the shape of the spicules and the form and branching of the dorsal ray. *Filicapitis longicollis* n.g., n.sp. is an intestinal parasite, with a long oesophagus such as is seen in the genus *Trichuris* but with the vulva in the posterior part of the body. The male has a well formed bursa, short strong spicules and a gubernaculum. *Bradypostrongylus inflatus* and *B. panamensis* are recorded from the same host. P.A.C.

(304b) The thoracic muscles of a female *Simulium* (*Notolepria*) *exiguum* contained a sausage stage of *Onchocerca volvulus*, and two other specimens contained exuviae probably of *O. volvulus*. The flies were collected in the village of San Felipe León, Oaxaca, where the carrier incidence is 60%. E.M.S.

(304c) Bravo H. describes specimens of *Acuaria hamulosa* from the proventriculus of *Gallus gallus domesticus* in Chiapas, noting in particular the extreme variability in both number and position of the papillae in the male. P.A.C.

(304d) Caballero y C. gives notes on various nematode species found in wild animals. Measurements are given for *Rhabdias sphaerocephala*, *Oswaldocruzia subauricularis* is redescribed, and *Aplectana incerta* n.sp. is described: all are from *Bufo horribilis* in Chiapas. Notes are also given on female specimens of *Diplotriaena tricuspidis* from *Balanosphyra formicivora*, and *Aprocta caballeroi* is recorded from *Empidonax* sp., also in Chiapas. E.M.S.

(304e) *Plagiorchis gonzalchavezii* n.sp., a parasite of the small intestine of *Tyrannus* sp. in Mexico, approaches most closely to *P. molini* and *P. noblei*. There are however several differences in the genital system, particularly in the cirrus-sac and in the distribution of the vitelline glands. The relative position of the suckers is another useful feature. P.A.C.

## 305—Anales del Instituto de Medicina Regional. Tucumán.

- a. VUCETICH, M. & GIACOBBE, O., 1949.—"Parasitología de apéndices extirpados en la Ciudad de Jujuy (R.A.)." 2 (3), 245-257. [English & French summaries p. 255.]

## 306—Annales Medicinae Internae Fenniae. Supplementum.

- a. SETÄLÄ, A., 1949.—"Studies on the haemoglobin values of the blood and on anaemia in the population of the Kärkölä District." 38 (4), 52 pp.

(306a) In this study brief reference is made to helminth infection: it is probable that the Kärkölä people have "a propensity to contract tapeworm anaemia more often than in the ratio 1:150. Among the displaced population the tapeworm frequency was



23.2 per cent. . . . the cases of tapeworm anaemia . . . seem to have been more frequent than 1 to every 100 worm carriers". R.T.L.

### 307—Annales Paediatrici.

- a. STRANSKY, E. & DAUIS-LAWAS, D., 1949.—"On the effect of secondary infections on the development of hookworm anemia: observations on the role of secondary infections in iron deficiency anemia." 173 (5), 281-298. [French & German summaries pp. 297-298.]

### 308—Annales de Parasitologie Humaine et Comparée.

- a. TALICE, R. V. & GURRI, J., 1949.—"Sur la morphologie du *Cysticercus racemosus*. Existence d'un revêtement cilié sur sa paroi." 24 (5/6), 412-413.
- b. DOLLFUS, R. P. & CHABAUD, A. G., 1949.—"*Kalicephalus viperae* (Rudolphi 1819) (Nematoda Strongyloidea): un parasite de serpents à ajouter à la faune de France." 24 (5/6), 414-423.
- c. DOLLFUS, R. P., 1949.—"Sur une cercaire ophthalmoxiphidiocerque, *Cercaria isopori* A. Looss 1894, et sur la délimitation des Allocreadioidea." 24 (5/6), 424-435.
- d. DOLLFUS, R. P., 1949.—"*Distoma rubens* F. Dujardin 1845 (= *exasperatum* Rudolphi 1819), retrouvé en France et redécrit." 24 (5/6), 436-442.
- e. CAMPANA, Y., 1949.—"Une filaire nouvelle du héron cendré (*Ardea cinerea* L.) *Lemdana urbaini* n.sp." 24 (5/6), 443-446.
- f. DESPORTES, C., CHABAUD, A. G. & CAMPANA, Y., 1949.—"Sur les gongylonèmes de Muridae et leurs formes larvaires." 24 (5/6), 447-459.
- g. PAUTRIZEL, R., BEZIAN, A. & BAILANGER, J., 1949.—"Etudes sur la toxicité des helminthes. I. Leur teneur en histamine." 24 (5/6), 460-463.

(308a) Talice & Gurri demonstrate histologically the presence of "ciliary" elements on the outer and inner surfaces of a *Cysticercus racemosus* [= *C. cellulosae*], which was surgically removed from one of the ventricles of the brain of a human adult. On the outer surface there was a continuous and uniform covering of these elements, but on the inner their distribution was discontinuous. Sometimes they appeared to be soft and degenerating which indicated that they were deciduous structures. These elements were similar to those described by other authors for the scolex of *Echinococcus*. H.C.

(308b) A species of *Kalicephalus* found in *Vipera aspis* and in *Elaphe scalaris* collected near Nantes and in the eastern Pyrenees, is identified with the Palaearctic species *K. viperae* (Rudolphi). The species is redescribed and illustrated. A peculiar feature is the far posterior position of the genital pore, at the level of the posterior end of the oesophagus. E.M.S.

(308c) *Cercaria isopori* Looss, 1894 is redescribed and figured from *Sphaerium rivicola* collected from the Marne at Le Perreux. The metacercariae encyst in *S. rivicola*. Dollfus considers that genera, some of which have rediae and others have only sporocysts in their life-cycles, cannot be grouped into the same family. A considerable number of genera have been attributed to Allocreadioidea. Only those in which cercariae are produced by rediae are accepted as valid members, viz., *Allocreadium*, *Crepidostomum*, *Megalonia* and allied genera. R.T.L.

(308d) Dollfus found one mature and eight immature specimens of *Distomum exasperatum* Rud. in a specimen of *Neomys fodiens* captured at Anvers-St-Georges (Seine-et-Oise): the characteristic reddish coloration is due to the numerous vitellaria. The species is redescribed and illustrated, and is assigned to *Rubenstrema* n.subg. within the genus *Opisthioglyphe*. The subgenus *Rubenstrema*, which is defined, is distinguished by having the cirrus-sac in front of the acetabulum, by the absence of an oesophagus and the presence of a metraterm. A new subfamily, *Opisthioglyphinae* n.subf., is suggested for *Opisthioglyphe*, *Dolichosaccus*, and *Brachysaccus*. E.M.S.



(308e) *Lemdana urbaini* n.sp. is described and illustrated from the aponeuroses of the body-cavity of *Ardea cinerea*. It is distinguished from the four known species by its small size, size of the excretory pore, reduction of the glandular oesophagus and the relatively slight difference in the spicules. The uterus is amphidelphic. The six specimens collected were immature. The two males measured 3.7 mm. and 4.35 mm. and the four females 5.3-5.8 mm.

R.T.L.

(308f) There is considerable variation in the Gongylonemas found in the Muridae in their size, the position of the dierids and cervical alae, the shape of the posterior end of the male and the number and dimensions of the male papillae. It is easier to differentiate the various species by the larvae, which fall into two groups: (i) *G. neoplasticum* and (ii) *G. brevispiculum* and *G. problematicum*. It is pointed out that the two latter species are differentiated from one another only by the size of their eggs.

R.T.L.

(308g) Experimental data are supplied from which it is concluded that the histamine content of ascarids, liver-fluke, hydatid fluid and the strobila of *Moniezia expansa* is too small to account directly for toxic manifestations in their hosts.

R.T.L.

### 309—Annales Universitatis Mariae Curie-Skłodowska, Lublin.

- a. SOLTYS, A., 1949.—"Pasożyty wewnętrzne drobnych gryzoni leśnych (Muridae) Parku Narodowego w Białowieży." 4C (10), 233-259. [In Polish: English summary pp. 258-259.]

(309a) Soltys examined 140 *Clethrionomys glareolus*, 30 *Microtus arvalis*, 16 *M. subterraneus* and 24 *Apodemus flavicollis* and found the following helminths: *Heligmosomum boreale*, *H. halli*, *Capillaria muris-sylvatici*, *Syphacia obvelata*, *Paranoplocephala omphalodes*, *Hymenolepis diminuta*, *H. fraterna*, *H. asymmetrica*, *Catenotaenia pusilla*, *C. lobata*, the cysticercus of *Taenia polyacantha*, *Cysticercus taeniaeformis* and *Sparganum mansonii*(?). He also describes the following new species: *Protospirura glareoli* n.sp. from the stomach of *C. glareolus*, which differs from *P. muris* in the position of the vulva and in the character of the teeth on the lips; *Plagiorchis microti* n.sp. from the intestine of *M. arvalis*; and *Andrya bialowiezensis* n.sp. from the intestine of *M. arvalis* and *C. glareolus*. The paper includes seven tables and 14 figures.

C.R.

### 310—Annali del Museo Civico di Storia Naturale Giacomo Doria.

- a. PUJATTI, D., 1949.—"Il *Grylloides sigillatus* W. è ospite intermedio della *Hymenolepis nana*, Siebold 1852." Year 1947-49, 63, 235-241.  
b. PUJATTI, D., 1949.—"Un nuovo ospite intermedio del *Diplopylidium nölteri* (Skriabin 1924) (Cestoda)." Year 1947-49, 63, 294-300.

(310a) Pujatti examined specimens of crickets, *Grylloides sigillatus*, from the kitchen of a prisoner-of-war hospital in Bangalore, South India, and found that 2% of them contained cysticercoids resembling those of *Hymenolepis nana*. The maximum number of cysticercoids in the body-cavity of a single cricket was 42. When crickets or isolated cysticercoids were fed to rats, two and three months old, which had been carefully examined and housed to prevent natural infection, eggs of *H. nana* were found in the faeces of the three oldest rats 13 days after infection. The worms found in one of these rats at autopsy are described. An adjutant cook who slept in the kitchen quarters was found to be harbouring the parasite.

E.M.S.

(310b) Three cysticercoids found in the visceral serosa of a specimen of *Dendrelaphis tristis* are identified on the characters and dimensions of the rostellar hooks as those of *Diplopylidium nölteri*. The life-cycle and possible definitive hosts are discussed.

E.M.S.



## 311—Annali della Sanità Pubblica. Rome.

- a. MARTELLI, T. & ZAFFINO, C., 1949.—“Sulla frequenza dell'infestazione da *Oxyurus vermicularis* nell'età infantile.” 10 (2), 370-375. [English, French & Spanish summaries p. 375.]

(311a) Martelli & Zaffino used a cellophane-strip technique in examining the anal orifices of 220 children between two and twelve years old, of both sexes and every social grade. *Enterobius* was found in 74 (33·6%). E.M.S.

## 312—Annals of Applied Biology.

- a. JOHNSON, L. R. & TOWNSEND, W. N., 1949.—“The inhibition of hatching of potato root eelworm (*Heterodera rostochiensis* Woll.) in partially sterilized soil.” 36 (4), 504-512.

(312a) Johnson & Townsend find they can inhibit the power of potato root diffusate to stimulate the hatching of *Heterodera rostochiensis* larvae, by adding ammonium carbonate to give at least 100 p.p.m. of ammonia. The ammonium salts of strong acids are ineffective, and the inhibition is correlated with a high pH value (8·2). The inhibitory effect of soil partially sterilized by heat is due to increased ammonia production, which reached a peak of over 400 p.p.m. in about four weeks. Since the hatching factor in potato root diffusate, eclepic acid, is destroyed by alkalis the inhibition may be a simple alkali reaction. It is pointed out, however, that heavy eelworm infestations occur in warp soils of pH around 8. B.G.P.

## 313—Annals of Tropical Medicine and Parasitology.

- a. STANDEN, O. D., 1949.—“Experimental schistosomiasis. II.—Maintenance of *Schistosoma mansoni* in the laboratory, with some notes on experimental infection with *S. haematobium*.” 43 (3/4), 268-283.
- b. CHEN, H. T., 1949.—“Systematic consideration of some heterophyid trematodes in the subfamilies Haplorchinae and Stellantchasmae.” 43 (3/4), 304-312.
- c. BERTRAM, D. S., 1949.—“Studies on the transmission of cotton rat filariasis. I.—The variability of the intensities of infection in the individuals of the vector, *Liponyssus bacoti*, its causation and its bearing on the problem of quantitative transmission.” 43 (3/4), 313-332.
- d. REES-WRIGHT, W., 1949.—“A further note on mounting media for parasitological materials.” 43 (3/4), 373.

(313a) Standen describes the successful establishment of an Egyptian strain of *Schistosoma mansoni* as a standard laboratory infection in white mice. *Australorbis glabratus* proved to be a better intermediate host than *Planorbis boissyi* for the rearing of large numbers of cercariae. The infection rate in mice, which were exposed individually to approximately 90 cercariae, was 100%. The numbers of worms recovered from a mouse varied from one to 84 but an average of 21% of the cercariae reached maturity after cutaneous penetration. Specimens in copula were more prevalent in the mesenteric veins than in the portal vein. Unpaired males remained in the liver and portal vein. Males were more numerous than females. Standen failed to establish *S. haematobium* in mice and did not succeed in infecting *Bulinus contortus* with miracidia from two cases of urinary schistosomiasis. For screening tests he considers the mouse a more suitable host than the hamster or the guinea-pig. P.L.ler.

(313b) Chen believes that the valid species which have hitherto been assigned to the genus *Haplorchis* should be divided among *Haplorchis*, *Procerovum* and *Haplorchoides* n.g. The new genus *Haplorchoides* differs in possessing a prepharynx longer than the oesophagus, and in the position of the testis and vitellaria which are some distance from the posterior end of the body. A table gives the important characters of the six species of the new genus, namely *H. cahirinus* (type), *H. attenuatum*, *H. piscicola*, *H. gangeticum*, *H. silundii* and *H. taakree*. There are also detailed descriptions of *Procerovum calderoni* and *P. sisoni* n.comb. of the subfamily Stellantchasmae collected at Hong Kong. In his remarks on the life-history of haplorchid trematodes, Chen suggests that further study is necessary to complete or verify the life-histories of the Chinese species. R.T.L.



(313c) From a study of *Litomosoides carinii* in mites fed upon infected cotton-rats it is concluded that there is a relationship between the percentage infection rate of a series of mites and the intensity of infection in individual mites. The mean number of worms per mite for any series is directly related to the percentage infection rate for the series, but the relationship is not a simple one; nevertheless the results indicate that accurate quantitative transmission of the infection to cotton-rats can best be done by using mite series having infection rates of less than 50%. The numbers of microfilariae ingested by a mite are fewer than would be expected considering the intensity in the host's blood, and the numbers of infective larvae developing in a mite may be far less than the number of ingested microfilariae. This may be due to factors intrinsic in certain microfilariae rather than to factors intrinsic in the mites. Larval infections in the mites do not appear to affect them adversely.

J.-J.C.B.

(313d) A camphenol-sandarac mounting medium was recommended by Rees-Wright in 1927, but the mountant of slides of stained rediae and cercariae of *Fasciola hepatica* made then has now become white and opaque. Although the medium cannot, therefore, be regarded as suitable for permanent preparations it is of use for temporary ones.

R.T.L.

### 314—Antiseptic. Madras.

- a. DESAI, R. G., 1949.—“An unusual case of thread worms.” 46 (8), 616.

(314a) A boy 11 years old developed high temperature and symptoms ascribed to typhoid fever, complicated by convulsions. Santonin treatment for suspected *Ascaris* produced several bunches of thread worms, after which the temperature became normal and remained so.

E.M.S.

### 315—Archives de l'Institut Pasteur d'Algérie.

- a. MARILL, F. G., HOFMAN, M. & BERTOZZI, P., 1949.—“Le foyer de bilharziose urinaire de Fondouk (Algérie).” 27 (2), 110-127.

(315a) A focus of schistosomiasis *mansoni* which appears to have become established at Fondouk, department of Algiers, in 1946, is the second to be reported for Algeria. All of the 67 cases diagnosed occurred in males, all but two in boys and youths; the source of infection appeared to be the waters of the Oued Hamiz, where most of the patients bathed in summer. The most likely means of bringing the infection to Fondouk appear to be itinerant Moroccan workmen, who usually camp by the river. Examination of 75 *Bulinus* and 60 *Physa* collected from the Hamiz at various points in August 1947 was negative for furcocercariae. The necessity is emphasized of rigorous control measures to stamp out this outbreak and to prevent similar outbreaks in other districts of Algeria.

E.M.S.

### 316—Archives des Maladies de l'Appareil Digestif et des Maladies de la Nutrition.

- a. MORENAS, L. & COUDERT, J., 1949.—“Sur un cas d'infestation par le taenia *Hymenolepis diminuta* chez un nourrisson.” 38 (5/6), 496.

(316a) A case of *Hymenolepis diminuta* infection in a child 11 months of age is reported. The authors believe that this is the first case recorded from France. R.T.L.

### 317—Archives of Surgery. Chicago.

- a. POORE, T. N., MARVIN, C. P. & WALTERS, W., 1949.—“Echinococcal cysts obstructing the common bile duct. Report of case.” 59 (5), 1001-1006.

## 318—Archivio Italiano di Chirurgia.

- a. BIASINI, A., 1949.—"Rari reperti anatomo-patologici e sindromi addominali e pseudo-addominali acute da ascaridiosi intestinali di vecchia data. (Studio di undici casi)." 71 (5), 311-332.

## 319—Archivio per le Scienze Mediche.

- a. CADILI, G. & LI VOTTI, P., 1949.—"Tendenza al raggruppamento citologico omogeneo dei leucociti nell'echinococcosi." 87 (2), 207-214.

## 320—Archivos de la Sociedad de Biología de Montevideo.

- a. VANNI, V. & PÉREZ FONTANA, V., 1949.—"Nuevo método de controlar biológico de los antihelmínticos y su aplicación." Year 1948-49, 15 (1/4), 15-21.

(320a) Vanni & Murialdo have previously described a technique for testing the action of anthelmintics against earthworms of the genus *Limnodrilus* [for abstract see Helm. Abs., 17, No. 275a]. A technique is now described in which portions of colonies of *Limnodrilus* are used. It was found that such colonies in water reacted in various characteristic ways to anthelmintics, namely by (i) retraction (a) into a sphere (e.g. *timbo*), (b) into a central knot with the peripheral worms coiled like a "Medusa's head" (arecolin), (ii) separation (a) the worms being coiled (chenopodium), (b) the worms being straightened out (*quebracho*), and (iii) stimulation (santonin). The test was applied to various known anthelmintics, the results being read at once and after 24 hours. The test indicated the anthelmintic property of Uruguayan *timbo* (*Enterolobium contortisiliquum* and *Pithecellobium multiflorum*), and of *quebracho* (the wood of *Schinopsis Lorentzii*), which is a new anthelmintic.

E.M.S.

## 321—Archivos de la Sociedad Oftalmológica Hispano-Americana. Madrid.

- \*a. BELMONTE GONZÁLES, M., 1949.—"Quiste hidatídico de la órbita." 9 (1), 49-59.  
b. CASTRESANA Y GUINEA, A., 1949.—"*Filaria palpebralis*." 9 (3), 293-305.

(321b) A filarial worm measuring 30 mm. was extracted surgically from the subcutaneous tissue of the left lower eyelid of a young Venezuelan woman living in Bilbao. The patient reported a previous filarial infection with parasites localized in the wrists, legs and temporo-parietal region.

E.M.S.

## 322—Archivos Uruguayos de Medicina, Cirugía y Especialidades.

- a. CHIFFLET, A., 1949.—"La hidatidosis hepática es una afección hepato-biliar." 34 (2), 205-217. [Discussion pp 217-220.]  
b. BONNECARRÈRE, E. A. & ARDAO, R., 1949.—"La nefrectomía parcial en la hidatidosis renal." 34 (2), 221-230. [Discussion p. 230.]

## 323—Archivum Societatis Zoologicae Botanicae Fennicae 'Vanamo'.

- a. RENKONEN, O., 1949.—"On the quantitative separation of nematodes living in forest soil." Year 1947, 2, 82-87.

(323a) Renkonen has tested the various operations used in separating free-living nematodes from moss, soil and peat samples, and considers that with care a margin of error no greater than 0-10% can be maintained. Peat can be best handled by damping in a porcelain bowl and shredding with fine needles; after half-an-hour water is added and the sample thoroughly stirred. The material rising to the surface is carefully skimmed off and examined separately by the settling technique usual for a moss sample. The remainder is washed into a flask and shaken, and the supernatant is poured off into a new flask at the moment when the active nematodes remain suspended after the soil elements have sunk. Antibiotic nematodes can be gradually recovered by daily retreatment of the two sediments.

E.M.S.



**324—Arquivos de Neuro-Psiquiatria. São Paulo.**

- a. REIS, J. B. dos, BEI, A. & DINIZ, H. B., 1949.—“Dificuldade no diagnóstico diferencial entre cisticercose encefálica e neurolues.” 7 (2), 156-164. [English summary pp. 163-164.]
- b. PUPO, P. P. & PIMENTA, A. M., 1949.—“Cisticercose do IV ventrículo. Considerações anátomo-clínicas e sobre a terapêutica cirúrgica.” 7 (3), 274-291. [English summary pp. 290-291.]

**325—Athena. Rome.**

- \*a. TRIPODI, P., 1949.—“Considerazioni cliniche su un caso di bilharziosi vescicale.” 15 (2), 40-42.

**326—Auburn Veterinarian. Alabama.**

- \*a. GREENE, J. E., 1949.—“Canine strongyloidiasis.” 5, 115-116.

**327—Australian Journal of Scientific Research. Series B, Biological Sciences.**

- a. ROGERS, W. P., 1949.—“The biological significance of haemoglobin in nematode parasites. I. The characteristics of the purified pigments.” 2 (3), 287-303.

(327a) Rogers has purified the haemoglobins from *Nematodirus filicollis* and *N. spathiger*, *Nippostrongylus muris* and *Haemonchus contortus* and compared their properties with those of haemoglobins prepared from the host blood. The parasite haemoglobins differed from those of the hosts in their very high affinity for oxygen, the oxygen tension of half-saturation ( $p_{50}$ ) for *Nematodirus* haemoglobin of concentration  $1 \times 10^{-4}$  g.-atoms of iron per litre at pH 7.4 being in the region of 0.04 mm. of mercury. The  $p_{50}$  for *Haemonchus* was similar to that of *Nematodirus*; *Nippostrongylus* haemoglobin had a somewhat higher  $p_{50}$ . The parasite haemoglobins showed an unusually low affinity for carbon monoxide, the equilibrium constant  $K = [\text{HbCO}] \times p\text{O}_2 / [\text{HbO}_2] \times p\text{CO}$  having a value of about 1. The “span”, the distance between the  $\alpha$ -bands of oxy-haemoglobin and carboxyhaemoglobin, varied from 60Å to 65Å for the three parasites. The possible physiological function of haemoglobin in the parasites is discussed. W.P.R.

**328—Australian and New Zealand Journal of Surgery.**

- a. NEWLAND, H., 1949.—“A case of hydatid of the liver presenting some unusual features.” 19 (1), 38-39.

**329—Australian Veterinary Journal.**

- a. PULLAR, E. M. & McLENNAN, G. C., 1949.—“Sparganosis in a Victorian pig.” 25 (12), 302-304.

(329a) Spargana up to 50 mm. long and 2 mm. wide and numerous oval caseous cyst-like lesions occurred between the muscle fibres throughout the body of a Large White pig in prime condition. The species was not determined but was probably *Diphyllbothrium erinacei* which is common in cats, foxes and occasionally dogs in eastern Australia. The pig came from near the Murray River and may have eaten infected frogs. This is the first Australian record of the occurrence of Sparganum in the pig. R.T.L.

**330—Bergcultures. Batavia.**

- a. EMDEN, J. H. VAN, 1949.—“Schade aan thee door *Heterodera marioni*.” 18 (9), 163, 165, 167.

(330a) Until recently root-knot in tea was of slight importance in the Dutch East Indies, but Van Emden says that it has suddenly become a serious pest. It appears to cause trouble only in young seedlings. *Tephrosia vogelii* is probably an alternative host for the same race and, while *Crotalaria usaramoensis* is immune, *C. anagyroides* is not. The eelworm was widespread in a nursery where the poor stand of the seedlings might have been ascribable to late planting and a very dry north-east monsoon. But no improvement has followed the normal rains of the west monsoon, and the pest has been found in many other nurseries. Nurseries should not be laid out on infested land;

*T. vogelii* or weeds of the genera *Eupatorium*, *Ageratum* and *Erechtites* can be used as indicators for this. Infested land can be first fallowed and then sown with *C. usaramoensis*, or it can be steamed or fumigated with D-D mixture. It is not yet known how far disinfected beds are reinfected from below.

B.G.F.

### 331—Biochemical Journal.

- a. CALAM, C. T., RAISTRICK, H. & TODD, A. R., 1949.—"The potato eelworm hatching factor. 1. The preparation of concentrates of the hatching factor and a method of bioassay." 45 (5), 513-519.
- b. CALAM, C. T., TODD, A. R. & WARING, W. S., 1949.—"The potato eelworm hatching factor. 2. Purification of the factor by alkaloid salt fractionation. Anhydrotetrone acid as an artificial hatching agent." 45 (5), 520-524.
- c. MARRIAN, D. H., RUSSELL, P. B., TODD, A. R. & WARING, W. S., 1949.—"The potato eelworm hatching factor. 3. Concentration of the factor by chromatography. Observations on the nature of eclepic acid." 45 (5), 524-528.
- d. RUSSELL, P. B., TODD, A. R. & WARING, W. S., 1949.—"The potato eelworm hatching factor. 4. *Solanum nigrum* as a source of the potato eelworm hatching factor." 45 (5), 528-530.
- e. RUSSELL, P. B., TODD, A. R. & WARING, W. S., 1949.—"The potato eelworm hatching factor. 5. Attempts to prepare artificial hatching agents. Part I. Some furan derivatives." 45 (5), 530-532.
- f. MARRIAN, D. H., RUSSELL, P. B. & TODD, A. R., 1949.—"The potato eelworm hatching factor. 6. Attempts to prepare artificial hatching agents. Part II. Some active arylidene- $\Delta^8:\gamma$ -butenolides and related compounds." 45 (5), 533-537.

(331a) Calam et al. describe the preparation of solid concentrates of the potato-eelworm hatching factor. The factor is recovered by leaching actively growing tomato plants with water, the leachings being subsequently adsorbed on charcoal and eluted with acetone. Following an account of the effect of different conditions on the hatching of larvae of *Heterodera rostochiensis* from cysts, a method for bio-assay of the hatching factor is described.

D.W.F.

(331b) Calam et al. describe the extraction of the potato-eelworm hatching factor from acid aqueous solution, by means of ether. They find it to be an acid and propose for it the name eclepic acid. The preparation of active brucine and quinine salts from eclepic acid is described. The most active fractions show full hatching activity at a dilution of 1 in  $10^7$  or 1 in  $10^8$ . Of a variety of substances tested, anhydrotetrone acid was the only chemical found to possess definite hatching properties, being active at 1 in 2,000. This substance was found to be capable of inducing hatching of cysts in sand.

D.W.F.

(331c) Marrian et al. record that chromatography at pH 6.0 followed by brucine salt fractionation, or two-stage chromatography at pH 5.5-6 and 4-4.5 effect similar degrees of concentration when applied to the potato-root eelworm hatching factor. The resinous products are fully active at dilutions of 1 in  $10^7$ . The composition and chemical properties of the most purified concentrates are discussed.

D.W.F.

(331d) Russell et al. record the recovery from *Solanum nigrum* of a root diffusate which was found to be highly active in inducing hatching of cysts of potato-root eelworm. The concentration of this product was accomplished in a similar manner to that of diffusates obtained from tomato roots and resulted in a similar product. They conclude that the active principle may be identical in both cases.

D.W.F.

(331e) Russell et al. record the synthesis of a number of substituted lactones and laevulinic acid derivatives containing furan nuclei, which showed no activity when tested as hatching agents for the potato eelworm.

D.W.F.

(331f) Marrian et al. record low but definite hatching activity from a series of compounds based on the  $\alpha$ -arylidene- $\Delta^8:\gamma$ -butenolide skeleton containing conjugated systems analogous to those present in anhydrotetrone acid. No hatching activity was detected in a number of coumarin and oxazolone derivatives.

D.W.F.



332—**Biológica. Chile.**

- a. BADÍNEZ SEPÚLVEDA, O., 1949.—"Comentario sobre el trabajo 'La espermatogénesis del *Gigantorhynchus hirudinaceus* Pall. 1871, fase meiótica', del Prof. Dr. Juan Noé." Año 1947, Fasc. 6/7, pp. 83-118. [English, French & German summaries pp. 106-109.]

(332a) This contribution by Badínez Sepúlveda to a memorial volume dedicated to Dr. Juan Noé reproduces *in extenso* Noé's researches on the spermatogenesis of *Gigantorhynchus* [= *Macracanthorhynchus*] *hirudinaceus* published in 1914 [*Mem. Accad. Lincei*, Anno 311, ser. 5, 10 (5), 46-118]. The following were his principal conclusions. The number of chromosomes in *M. hirudinaceus* is six, not four. There is a particular type of pseudo-reduction named metaparasynopsis or amphisynopsis. During the auxocitary stage, no really resting nucleus is formed. The complication of the strepsinemic coiling leads to a secondary parasynopsis. Typically reductional pseudo-equational figures are described which might erroneously be taken to be of bi-equational type. There is a marked heterochronism during metaphase and anaphase in the evolution of the heterotypic gemini; one of the tetrads takes the lead before the other two, which follow one another closely. During the second maturation division, false tetrads or homeotypic gemini are formed which give way to C, E or ring-shaped chiasmata and terminalization figures, and which resemble functionally but differ morphologically from those of the first division.

R.T.L.

333—**Biológico. São Paulo.**

- a. MELLO, M. J. DE, 1949.—"Vermínozes dos cavalos." 15 (6), 111-128.

334—**Bios. Mount Vernon.**

- \*a. NICE, S. J., 1949.—"Improved methods for activating tapeworm embryos." 20 (2), 128-133.

335—**Boletín de Informaciones Parasitarias Chilenas.**

- a. FAIGUENBAUM, J. & FANTA, E., 1949.—"Tratamiento biológico de la hidatidosis." 4 (1), 6-8.  
 b. ANON., 1949.—"Campañas antiparasitarias en Chile." 4 (1), 8-9; (2), 10-12; (3), 43-44; (4), 54-55.  
 c. FAIGUENBAUM, J. & MIRANDA, G., 1949.—"Revisión y actualización de la reacción de Casoni para el diagnóstico de la hidatidosis." 4 (2), 7-10.

(335b) It is announced that a summary of progress made in the various parasite control campaigns of the Departamento de Parasitología will be given in each issue of the *Boletín*. Hydatid disease and trichinellosis are the two helminth diseases dealt with. The organization of a National Committee on Hydatidosis is described. During the year, 71 cases of suspected trichinellosis were examined, and 30 of them were confirmed. An outbreak in Valparaíso involved 32 cases; *Trichinella spiralis* was found in 51% of 27 pigs fed from a local garbage dump.

E.M.S.

(335c) Faiguenbaum & Miranda find that a delayed positive action in the Casoni test is generally a reliable indication of hydatid infection; the immediate action is less useful. The value of antigens is not always equal: for instance, the albuminoid fraction of hydatid fluid is over 80% accurate, whole fluid is 78% accurate, but antigen made from whole cysts is only 68-75% accurate. The two latter antigens are apt to give false positive results but the albuminoid fraction has never done so in their own tests. P.A.C.

336—**Boletín de la Oficina Sanitaria Panamericana.**

- a. ASHBURN, L. L., BURCH, T. A. & BRADY, F. J., 1949.—"Pathologic effects of suramin, hetrazan and arsenamide on adult *Onchocerca volvulus*." 28 (11), 1107-1117. [Spanish summary pp. 1116-1117.]

(336a) That suramin [= Bayer 205] has a lethal effect on adult *Onchocerca* in 121-323 days was apparent from a histopathological examination of 34 nodules removed

from 21 patients who had received a total minimum dose of 0.14 gm. per kg. body-weight. Considerable alterations in the uterine contents of the worms occurred in a shorter period. Hetrazan, which was slower in action, caused some suppression of microfilarial production after 61 days. The results from arsenamide, given to three patients, suggested further trials.

R.T.L.

### 337—Boletines y Trabajos. Academia Argentina de Cirugía.

- \*a. BUSTOS, F. M., 1949.—“Equinococosis extrapleurale primitiva o heterotópica de pleura.” 33 (3), 121-125.
- \*b. BELLEVILLE, G. I. & BUSTOS, F. M., 1949.—“Equinococosis extrapleurale primitiva o heterotópica de pleura.” 33 (4), 128; (5), 156-158.
- \*c. BELLEVILLE, G. I., 1949.—“Hidatidosis pleural secundaria.” 33 (17), 524-528.
- \*d. SAN MARTÍN, A. F., 1949.—“Quiste hidatídico del hígado simulando tumor renal; resección.” 33 (22), 719-721.

### 338—Boletines y Trabajos. Sociedad Argentina de Cirujanos.

- \*a. DEFAZIO, F., 1949.—“Hidatidosis ósea.” 10 (6), 133-136. [Discussion pp. 168-170.]
- \*b. SÁNCHEZ ZINNY, J., 1949.—“Síndrome coledociano y fistula biliar de origen hidatídico.” 10 (7), 164.
- \*c. CASIRAGHI, J. C., 1949.—“Terapéutica biológica de la hidatidosis.” 10 (10/11), 229-239.
- \*d. BASCH, F., COMOLLI, E. P. & FAZIO, J. M., 1949.—“A propósito de terapéutica biológica de la hidatidosis.” 10 (12), 247-250.
- \*e. CASIRAGHI, J. C., 1949.—“Terapéutica biológica de la hidatidosis.” 10 (17), 454-456.
- \*f. SÁNCHEZ ZINNY, J., 1949.—“Terapéutica biológica de la hidatidosis.” 10 (18), 484.
- \*g. CASIRAGHI, J. C., 1949.—“Terapéutica biológica de la hidatidosis.” 10 (19), 519.
- \*h. NOCITO, F. J. & ABELEND, E. F., 1949.—“Quiste hidatídico muscular primitivo.” 10 (19), 525-532.
- \*i. CASIRAGHI, J. C., 1949.—“Terapéutica biológica de la hidatidosis.” 10 (19), 562.
- \*j. CAL, G., 1949.—“Quiste hidatídico muscular primitivo.” 10 (21), 636-639.
- \*k. BASES, L. & FERREIRA, J. A., 1949.—“Quiste hidatídico muscular primitivo.” 10 (22), 675-677.

### 339—Bollettino della Società Italiana di Medicina e Igiene Tropicale (Sezione Eritrea di Medicina Umana e Veterinaria).

- a. BATTELLI, C. & CORAZZI, G., 1949.—“Primi casi di spirocerosi del cane in Eritrea.” 9 (1), 105-111. [English summary p. 110.]
- b. FERRO-LUZZI, G., 1949.—“Ulteriori indagini sull'anchilostomiasi in Eritrea.” 9 (2), 130-133. [English summary p. 133.]
- c. SOFIA, F., 1949.—“Studio sull'anchilostomiasi in Eritrea.” 9 (3), 249-265. [English summary p. 264.]
- d. PELLEGRINI, D., 1949.—“Il *Cysticercus dromedarii* ottenuto sperimentalmente nel bovino.” 9 (3), 284-288. [English summary p. 288.]
- e. BATTELLI, C., 1949.—“Il *Cysticercus dromedarii* (Pellegrini 1945) in Eritrea.” 9 (3), 289-294. [English summary p. 294.]
- f. COCEANI, C., 1949.—“Frequenza del *Cysticercus bovis* e del *Cysticercus dromedarii* tra gli zebù eritrei.” 9 (3), 295-299. [English summary p. 299.]
- g. CALL, C., 1949.—“Il *Cysticercus dromedarii* (Pellegrini 1945) in un'antilope eritrea.” 9 (3), 300-302. [English summary p. 302.]
- h. CALL, C., 1949.—“Segnalazione di microfilarie sanguicole della lepre e faraona eritree.” 9 (3), 303-308. [English summary p. 308.]

(339a) *Spirocerca sanguinolenta*, not hitherto reported from Eritrea, is recorded from two dogs.

R.T.L.

(339b) *Necator americanus* has recently become widely distributed among the inhabitants of the highlands of Eritrea. No cases of *Ancylostoma duodenale* have occurred since the two reported in 1944.

R.T.L.

(339c) Hookworm disease in man in Eritrea is due to *Necator americanus*. Climatic conditions do not favour the development of the larvae throughout the year. In some cases the symptoms are severe with typical hypochromic microcytic anaemia and eosinophilia, but the severity of the symptoms is not always correlated with the number



of parasites present and it is likely that malnutrition and other diseases affect the clinical picture. Sofia is of the opinion that 3.0 gm. of carbon tetrachloride in a single dose is the safest and most convenient method of treatment in Eritrea. The number of parasites found in 30 cases ranged from 10 to 2,861.

R.T.L.

(339d) A calf was successfully infected with *Cysticercus dromedarii* [= *C. dromedarius* Pellegrini, 1945] following the administration of ripe segments of *Taenia hyaena* from a hyaena.

R.T.L.

(339e) *Cysticercus tenuicollis* and *C. dromedarii* are compared and illustrated. Battelli concludes that they can be morphologically differentiated on the basis of scolex characters, the hooks of *C. tenuicollis* being less numerous, the small hooks generally longer, the guard straight and shorter, and the blade more curved than in *C. dromedarii*.

E.M.S.

(339f) Coceani examined 531 zebu cattle, chiefly young animals, and found 155 (29.19%) with cysticerciasis. *Cysticercus bovis* was found alone in 99 cases and *C. dromedarii* alone in 32 cases, while there were 24 cases of mixed infection.

E.M.S.

(339g) *Cysticercus dromedarii* is reported from *Cephalophus grimmi abyssinicus* in Eritrea.

R.T.L.

(339h) Call describes from Northern Eritrea and illustrates but does not name a microfilaria 89.34 $\mu$  to 121.91 $\mu$  in length from three hares, and one 73.48 $\mu$  to 88.51 $\mu$  in length from two guinea-fowls. They are said to be similar to those already recorded from the Sudan.

R.T.L.

### 340—Bristol Medico-Chirurgical Journal.

- a. O'DONNELL, G. P., 1949.—"Cholecystitis due to liver fluke." 66 (239), 74-76.

(340a) O'Donnell records a case of cholecystitis due to *Fasciola hepatica* in a Cornish woman. No eggs were found in the bile or faeces, but two fully developed flukes were removed at operation.

R.T.L.

### 341—British Journal of Surgery.

- a. HUGHES, M., 1949.—"A case of bilharzia of the appendix, with strangulation of ileum." 36 (144), 428-429.  
b. SKAPINKER, S., 1949.—"Intestinal obstruction due to ascaris." 37 (145), 110-111.

(341b) Roundworms are a not infrequent cause of intestinal obstruction in the Bantu of South Africa, in whom there is a very high percentage of infection with *Ascaris*. An X-ray photograph is reproduced which shows a distended loop of bowel containing two worms.

R.T.L.

### 342—British Veterinary Journal.

- a. GIBSON, T. E., 1949.—"The action of phenothiazine on pure infestations of *Trichostrongylus axei* in sheep." 105 (8), 309-312.

(342a) From a series of controlled tests with pure infections of *Trichostrongylus axei* in sheep, Gibson found that 10 gm. of phenothiazine was 63% efficient. A dose of 20 gm. gave a 96% efficiency but 40 gm. were necessary to secure 100% efficiency. It is inferred that if control is to be effective in the field, 20-30 gm. must be given to sheep suffering from trichostrongylosis.

R.T.L.

## 343—Bulletin. Department of Scientific and Industrial Research, New Zealand.

- a. TETLEY, J. H., 1949.—"Rhythms in nematode parasitism of sheep." No. 96, 214 pp.

(343a) The ordinary procedure of drenching for gastro-intestinal parasitism in sheep is applied blindly, uneconomically and frequently needlessly. Tetley has sought to define the conditions under which anthelmintics can fulfil their potentialities by a remarkably detailed series of investigations, which have extended over several years. His memoir covers so wide a field and so many different aspects of the subject that an adequate abstract even of his conclusions cannot be presented. The memoir is divided into seven parts: Part I deals with studies on the cycle of infection in a small isolated flock; Part II discusses the role of pregnant and lactating ewes in contaminating the pastures; Part III compares the early life parasitism in lambs with that found in their mothers; Part IV reveals from post-mortem examinations the process of parasitism in lambs during early life; Part V compares epidemics in neighbouring flocks of lambs; in Part VI the process of parasitism in previously uninfected lambs during autumn and winter is investigated; and Part VII describes in detail the process of daily elimination of nematode parasites from a lamb grazing on permanent pasture under farm conditions. This process was rhythmical; periods of elimination in several species coincided and demonstrated the operation of a non-specific agency superimposed on the acquired resistance mechanism.

R.T.L.

## 344—Bulletin of the Institute of Marine and Tropical Medicine, Medical Academy in Gdańsk, Poland.

- a. KOZAR, Z., 1949.—"Immunological relationship of *Ascaris lumbricoides* var. *humanum* and var. *suum* studied *in vitro* by the method of living larvae." 2 (1/2), 61-70.  
 b. KOZAR, Z., 1949.—"Methods of examination of feces and incidence of parasite worms in children in Gdańsk as compared with other European countries." 2 (1/2), 71-84.  
 c. KOZAR, Z., 1949.—"Methods of examination for pinworms (*Enterobius vermicularis*) and their incidence in children in Gdańsk." 2 (1/2), 85-89.  
 d. KOZAR, Z., 1949.—"First Congress of Polish Parasitologists in Gdańsk, May 16-18, 1948." 2 (1/2), 111-120.  
 †e. STEFANSKI, W., 1949.—"Problems of parasitology in post-war Poland." 2 (1/2), 112-113.  
 †f. MORZYCKI, J., 1949.—"The role and importance of medical parasitology." 2 (1/2), 113.  
 †g. SZWEJKOWSKI, H., 1949.—"Pathological lesions produced in the host's organism by *Diocotphyne renale* G., and their relation to the parasite's development." 2 (1/2), 115-116.  
 †h. SANDNER, H., 1949.—"Parasitic fauna of amphibians in the vicinity of Warsaw." 2 (1/2), 116-117.  
 †i. HAY, J., 1949.—"Observations as to the intensity with which ova of the liver-fluke (*Fasciola hepatica*) are discharged throughout the year." 2 (1/2), 117.  
 †j. TRAWIŃSKI, A., 1949.—"Serologic-allergic methods in the diagnosis of parasitic diseases." 2 (1/2), 117-118.

(344a) [This article has already appeared in *Med. wet.*, 1948, 4 (8), 475-480. For abstract see *Helm. Abs.*, 17, No. 325a.]

(344b) Examination of 1,000 children between three and fourteen years of age from the area of Gdańsk, mostly from working class quarters and from the suburbs, e.g. Nowy Port and Oliwa, showed that 41.1% had helminth eggs in their faeces. The species incidence was: *Trichuris trichiura* 27.6%, *Enterobius vermicularis* 10.2%, *Ascaris lumbricoides* 7.6%, *Taenia saginata* 0.1%, *Diphyllobothrium latum* 0.1%, *Trichuris* and *Ascaris* 2.6%, *Trichuris* and *Enterobius* 1.7%. *Ascaris* infection reached its maximum (22.5%) in children five years old, and dropped at seven years of age to less than 10%. *Trichuris* infection increased rapidly to the age of five years and remained above 20% thereafter.

R.T.L.

† Abstract of paper presented at the 1st Congress of Polish Parasitologists, Gdańsk, May 16-18, 1948.



(344c) Kozar reviews briefly some of the literature dealing with the various methods of examining man for oxyuriasis. In order to compare the efficiency of the egg-flotation method of Kofoed-Barbier as modified by Fülleborn with that of the NIH method, he examined 850 children aged three to thirteen years. The flotation method yielded 72 positives while the NIH method proved 612 to be infected. Boys (78.8%) were more frequently infected than girls (69.2%). The incidence of infection increased between the ages of three and seven years. At seven years of age it varied between 70% and 90%. This incidence is much higher than has been recorded for Polish children previously. He pleads for an organized campaign against oxyuriasis. Frequent individual treatment is considered useless in view of the great possibility of reinfection. P.L.LER.

(344e) [This article has appeared in full in *Med. wet.*, 1948, 4 (12), 764-767. For abstract see *Helm. Abs.*, 17, No. 325c.]

(344g) *Diocotophyme renale* was fairly common in Poland before 1939, being found in 4% of dogs, but Szwejkowski has not found it in several thousand dogs and cats autopsied since 1939. The larva leaves the alimentary canal of the final host and reaches the liver, where its course is marked by macroscopic lesions. Having moulted several times as it matures and increases in size, the parasite after leaving the liver migrates among the abdominal organs, almost always making for the right kidney. The migration route is marked by inflammatory lesions on the surfaces of the organs, i.e. by fibrous peritonitis, and by fibrous inflammation of the capsules of the liver, spleen and kidneys. In the case of the female, there may be nodules containing encapsulated ova. Worms taken from natural infections and introduced into the body-cavity of dogs were found to make for the renal pelvis, actively boring into the parenchyma of the right kidney. Penetration took place fairly quickly, by the action of proteolytic and lipolytic enzymes of the oesophageal glands producing a coagulation necrosis of the renal parenchyma. Enzyme action ceases and repair processes take place when the worm has reached the interior of the renal pelvis; the canal by which the worm entered undergoes cicatrization. The life-history of the species in Poland has not yet been determined. E.M.S.

(344h) [This article has appeared in full in *Acta zool. Oecol. Univ. Lodz.*, 1949, 2, 5-28. For abstract see above, No. 295a.]

(344i) [This article has appeared in full in *Med. wet.*, 1949, 5 (3), 171-178. For abstract see *Helm. Abs.*, 18, No. 235d.]

(344j) [This article has appeared in full in *Med. wet.*, 1947, 3 (11), 721-722. For abstract see *Helm. Abs.*, 16, No. 273i.]

### 345—Bulletin. Kentucky Agricultural Experiment Station.

- a. TODD, A. C., KELLEY, G. W. & HANSEN, M. F., 1949.—"Winter survival of sheep parasites on a pasture in Kentucky." No. 533, 7 pp.
- b. TODD, A. C., HULL, F. E., KELLEY, G. W., WYANT, Z. N. & HANSEN, M. F., 1949.—"Worm parasites in Thoroughbred mares. A survey of occurrence, development, and control." No. 536, 16 pp.
- c. TODD, A. C., KELLEY, G. W., WYANT, Z. N., HANSEN, M. F. & HULL, F. E., 1949.—"Worm parasites in Thoroughbred sucklings and weanlings. A survey of incidence, development, and control." No. 541, 24 pp.

(345a) In central Kentucky the infective larvae of *Haemonchus contortus*, *Ostertagia circumcincta*, *O. trifurcata*, *Chabertia ovina* and *Nematodirus spathiger* survived on permanent pasture during the winter of 1947 to 1948. The larvae of *Oesophagostomum columbianum*, *O. venulosum* and *Trichostrongylus* sp. appeared to be reduced in number. The infective stage of *Moniezia expansa* within oribatid mites also survived the winter. Massive concentrations of infective larvae occur on permanent pastures in the spring from over-wintering larvae and the faeces of infected ewes. Phenothiazine-salt mixture should be available to ewes throughout the grazing season. R.T.L.

(345b) The total worm burden of Thoroughbred mares increased cyclically after foaling. Progressive increases were linked with reinfection and the warmer weather of spring. Control of infection at the nurseries was dependent on efficient anthelmintic administration. Regulated treatment of mares by low-level doses of phenothiazine during the first 21 days of each month prevented heavy pasture contamination and subsequent heavy infection of the foals. The effect of this treatment on the fertility of the mares is under investigation. R.T.L.

(345c) This bulletin presents data from six representative Thoroughbred establishments in Kentucky, on the appearance and progress of *Ascaris*, strongyle and *Strongyloides* infections based on egg-counts on 45 foals. Eggs of *Strongyloides* and strongyles were found in the meconium and of *Ascaris*, *Strongyloides* and strongyles one week after birth. The average age at which *Ascaris* first appeared was 11.3 weeks. June to September were the months of peak infection with *Ascaris* and strongyles. The drug of choice for *Ascaris* was carbon disulphide, 3-4 drams in capsules or by stomach tube for sucklings or weaners. The infections with *Strongyloides* were self-limiting and disappeared in about 23 weeks. For strongyle infections 10-15 gm. of phenothiazine as a suspension were given by stomach tube to sucklings and weaners. The sudden appearance and abrupt disappearance of strongyle eggs before the establishment of infection is held to be indicative of coprophagia although perhaps not the complete explanation, since a foal would have had to consume  $4\frac{1}{2}$  lb. of mare faeces for three consecutive days to arrive at an egg-count of 450 eggs per gramme. No hygienic or management methods were sufficient to prevent or control worm infections without anthelmintic treatment. The most efficient control of strongyle infections was by the intermittent low-level phenothiazine dosing of mares and weaners. R.T.L.

#### 346—Bulletin. Ministry of Agriculture and Fisheries. London.

- a. MOORE, W. C., 1949.—"Diseases of bulbs." No. 117, vi+176 pp. [Revised.]

#### 347—Bulletin of the New York Academy of Medicine.

- a. MOST, H., 1949.—"Recent advances in the therapy of the more common protozoan and helminthic infections of man." 25 (11), 717-740.

#### 348—Bulletin de la Société de Pathologie Exotique.

- a. TISSEUIL, J., 1949.—"Lèpre et filariose cutanée." 42 (11/12), 539.
- b. DESCHIENS, R., BABLET, J. & LAMBAULT, E., 1949.—"Les lésions anatomo-pathologiques de l'intoxication aiguë par les extraits d'*Ascaris*." 42 (11/12), 554-556.
- c. TASQUÉ, M., 1949.—"Essais de traitement de 17 cas de filariose à *Loa-loa* par le 3-799 RP." 42 (11/12), 556-557.
- d. PUYUELO, R., 1949.—"Note préliminaire sur l'épidémiologie et le traitement de l'onchocercose humaine à *O. volvulus*, en pays Mossi. Le 3-799 R.P. (Notézine)." 42 (11/12), 558-561.
- e. JOYEUX, C. & BAER, J. G., 1949.—"A propos des ténias du genre *Inermicapsifer* récemment découverts chez l'homme." 42 (11/12), 581-586. [Discussion pp. 586-587.]

(348b) A fatal acute intoxication can be produced in experimental animals by the injection of body-cavity fluid or isotonic trichloroacetic acid extract of *Ascaris*. The lesions are those of haemorrhagic and hyperplastic oedema and are associated with a venous and capillary ectasis of the chief viscera. The lung shows an acute generalized oedema or a diffuse alveolitis according to the degree of intoxication and the species of the host. In the guinea-pig acute pulmonary oedema is the usual cause of death. R.T.L.

(348c) Tasqué confirms that 3-799RP [= hetrazan] taken by the mouth for 7-11 days in doses from 3-6 mgm. per kg. body-weight caused the microfilariae of *Loa loa* to disappear from the blood. R.T.L.

(348d) A survey of the population of 21 cantons of the Circle of Tenkodogo in the basin of the White Volta and its tributaries (French West Africa), revealed an incidence



of 10% with onchocerca nodules in 88,289 persons; 2,066 persons (2.3%) were blind and 621 had various ocular lesions. The most seriously affected cantons were Yakala, 30% infected and 4.5% blind; Linga, 27% infected, 5.3% blind; Yargatiaga, 23% infected, 1.93% blind; Komtoiga, 21% infected, 9% blind; Niago, 19% infected, 5.28% blind. Of 1,564 persons seen in the village of Campala (Circle of Ouagadougou) 7.6% were blind. Notezine [= hetrazan] was used in a few cases and caused the disappearance of the microfilariae, but produced anaphylactic phenomena. These were relieved by synthetic anti-histamines.

R.T.L.

(348e) Joyeux & Baer briefly review the genus *Inermicapsifer* and discuss its differential diagnosis from *Raillietina*. The former belongs to the Anoplocephalidae, the latter to the Davaineidae. López-Neyra's proposal to create a subfamily *Inermicapsiferinae* on the structure of the egg-capsules is rejected. The paper provides a key to the 14 species of *Inermicapsifer*. In the discussion Dollfus foresees that *Raillietina kouridovalli* Dollfus, 1940 may prove to be a synonym of *I. cubensis*.

R.T.L.

### 349—Bulletin de la Société des Sciences Naturelles de Tunisie.

- a. HELDT, J. H., 1949.—"Note sur la présence d'un pléroceroïde de tétrarhynque dans l'hépatopancréas de la crevette caramote *Penaeus trisulcatus* Leach." 2 (1), 13.
- b. BALOZET, L., 1949.—"*Rhabdias* sp. ? parasite du poumon de *Discoglossus pictus*." 2 (1), 50-51.

(349a) Heldt describes briefly the localization and morphology of a plerocercoid which occurs in practically every specimen examined of *Penaeus trisulcatus*. The site is the liver-pancreas, and the heaviest infection was four in a single specimen. The larva resembles that of *Eutetrarhynchus ruficollis*, which has been reported from numerous decapods. A detailed description is promised in a later publication.

E.M.S.

(349b) Balozet describes briefly some nematodes of the genus *Rhabdias* found in the lungs of four specimens of *Discoglossus pictus*, a new host record for the genus. The species was not determined.

E.M.S.

### 350—Calcutta Medical Journal.

- a. GUHA, P. K., 1949.—"An interesting case of round worm infection with post mortem report." 46 (4), 115.

(350a) At a post-mortem on a Madras patient handfuls of roundworms were coming out of the nostrils and mouth. Nearly 200 worms were emerging from a rent  $3\frac{1}{2}$  inches long in the greater curvature of the stomach. Worms were also found in two separate pockets in the liver, in a pocket in the centre of the pancreas, and in a pocket in the spleen.

R.T.L.

### 351—California Citrograph.

- a. BAINES, R. C., KLOTZ, L. J., CLARKE, O. F. & DEWOLFE, T. A., 1949.—"Hot water treatment of orange trees for eradication of citrus nematode." 34 (11), 482, 484.

(351a) Baines et al. submitted citrus nursery stock to hot-water treatment for the control of the citrus root nematode, *Tylenchulus semi-penetrans*. They found that the nematode can be eradicated by treating young bare-root trees for ten minutes in a water-bath maintained at 116°F. They recommend that when digging young trees for this treatment longer roots should be taken than when such trees are lifted for balling and they point out that precautions must be taken to keep the roots moist at all times. Treated trees should be planted as soon as possible.

T.G.

### 352—California Farmer. South Edition.

- \*a. WINSLOW, M. M., 1949.—"Reducing nematode injury to figs." 191, p. 85.

## 353—California Veterinarian.

- a. ROBERTS, I. M., 1949.—“Canine filariasis in California.” 3 (1), 16-18.

(353a) Of 60 cases of *Dirofilaria immitis* seen in Californian dogs, 38 occurred in the San Francisco Bay region in dogs which had never been outside the State. Twenty-nine were treated with foudadin: of these 13 recovered completely, 15 showed clinical improvement and one died. R.T.L.

## 354—Canadian Journal of Comparative Medicine.

- a. SWALES, W. E., 1949.—“Parasites of food animals, pets and fish in their relation to public health.” [Summary of paper presented at a veterinary conference held at the Ontario Veterinary College, July 1949.] 13 (12), 312-313.

(354a) In Canada, *Trichinella spiralis* occurs in less than 1% of the pigs. Although *Porrocaecum* sp. in cod are a frequent subject of lay inquiry, they are harmless to human beings as seals are the definitive hosts. The plerocercoid of *Diphylobothrium latum* which is common in pike, pickerel and perch from lakes in Western Canada should not be confused with those in whitefish, ciscos and other fish. “Black spot” in trout is a potential parasite of man although it normally develops in fish-eating birds. The liver-fluke of dogs in Canada [*Metorchis conjunctus*] is mentioned as an occasional parasite in man there. R.T.L.

## 355—Časopis Československých Veterinářů.

- a. KLIMŠA, R., 1949.—“Strongylosa plic u vepřů.” 4 (10), 238.  
b. HOVORKA, J., 1949.—“Nová metoda kvantitativního urcování entoparazitárných vajec.” 4 (16), 369-372.

(355a) Klimša recorded a high incidence of lungworm in pigs and noticed that young infected pigs obtained some relief after inhaling chloroform. As a prophylactic measure, however, he recommends the destruction of larvae by treating the pig-pens with basic slag or nitrate of lime at the rate of 10 kg. per are [= 100 sq. metres]. C.R.

(355b) A special slide has been devised by Hovorka for the estimation of helminth eggs in faeces. The slide measures 80 × 30 mm. and the middle portion forms a chamber which is 0.2 mm. in depth, with a surface area of 22 × 26 mm. On its floor a square measuring 20 × 20 mm. is subdivided into 400 squares of 1 × 1 mm., grouped into 16 squares measuring 5 × 5 mm. 1.0 gm. of faeces is put into a tube with 1.0 c.c. of antiformin, mixed thoroughly and left at room temperature for an hour. 50% sugar solution is added to bring the level up to 10 c.c. and mixed thoroughly. A sample is pipetted into the counting chamber and a coverslip is fixed in position by two clamps. Depending on the intensity of infection the eggs are counted in 1 sq. mm., 25 sq. mm. or 400 sq. mm. and coefficients of 5,000, 200 or 12.5 respectively are applied. To obtain the number of eggs in 1.0 gm. of faeces this result is further multiplied by the dilution factor. Photographs of the counting slide are included. C.R.

## 356—Časopis Lékařů Českých.

- a. KOLÁŘ, J. & PROCHÁZKA, J., 1949.—“Echinokokus plic.” [Demonstration.] 88 (19), 546.

## 357—Chacra. Revista Mensual de Agricultura, Ganadería e Industrias Anexas. Buenos Aires.

- \*a. SBARRA, N. H., 1949.—“El llamado cancer blanco: la hidatidosis.” 19 (227), 92-93.  
\*b. SBARRA, N. H., 1949.—“La triquinosis: una enfermedad común al hombre y a ciertos animales.” 20 (228), 92-93.



## 358—Chinese Medical Journal. Shanghai.

- a. WANG, C.-A., 1949.—“Acute cholecystitis caused by *Clonorchis sinensis*. Report of a case.” 67 (1), 19-20.
- b. KAN, H. C., 1949.—“Bionomics of *Oncomelania fausti*(?), the intermediate host of *Schistosoma japonicum*.” 67 (1), 21-23.
- c. KAN, H. C., 1949.—“An experimental control of the intermediate host of *Schistosoma japonicum*.” 67 (2), 69-76.
- d. LIU, C. H. & LEE, C. Y., 1949.—“Biliary ascariasis. Report of a case.” 67 (2), 77-79.
- e. CHANG, E., 1949.—“Uveitis of a Cantonese caused by *Gnathostoma spinigerum* (Owen 1836). Report of a case.” 67 (3), 166-168.
- f. HSU, H. F., 1949.—“Studies on certain problems of *Clonorchis sinensis*. X. On the possibility of acquiring clonorchiasis in Nanking and other nonendemic areas in China.” 67 (4), 189-192.
- g. KOO, S.-N. & WOO, D.-L., 1949.—“Pleural paragonimiasis complicated by empyema thoracis. Report of a case.” 67 (4), 211-213.
- h. NIU, P.-C. & LIU, S.-H., 1949.—“Ascariasis of liver complicating amebic abscess.” 67 (6), 307-309.
- i. HUANG, A. C. C. & WANG, A.-T., 1949.—“Biliary ascariasis. A report of 4 cases.” 67 (6), 310-312.

(358b) An account is given of the life-cycle and bionomics of *Oncomelania* snails, the only molluscs which transmit *Schistosoma japonicum*. The natural infection rate of *O. fausti*(?) in Chuhsien, Chekiang, was 5.3% of 19,098 specimens examined. E.M.S.

(358c) In laboratory experiments copper sulphate at 1 : 400,000 and lime at 1 : 400 killed 95% and 75% respectively of *Oncomelania* snails. In field experiments copper sulphate was applied at the rate of 1 : 250,000 and lime at 1 : 400 to irrigation canals. Soon after the application the copper sulphate had killed 56.3% of the snails, and the lime 17.3%. Three months later the total *Oncomelania* population had been reduced by 94.5% by copper sulphate and by 82.2% by lime, while there had been a snail increase of 84.7% in an untreated control canal. In a larger field experiment in which copper sulphate was applied at a rate sufficient to give a dilution of 1 : 200,000 in the irrigation ditches supplying 667 acres, the immediate kill was 56%, and the reduction of the snail population almost a year later was 52.28%, while the control untreated areas showed a net increase of 25.49%. E.M.S.

(358f) In Nanking, restaurants managed by Cantonese serve raw fish congee prepared from *Ctenopharyngodon idellus*. Hsu has found *Clonorchis* cysts in 11 out of 26 specimens of this fish which he obtained from the local market. Fortunately this dish is not very popular in Nanking. R.T.L.

## 359—Circular. United States Department of Agriculture.

- a. SCHWARTZ, B., IMES, M. & FOSTER, A. O., 1949.—“Parasites and parasitic diseases of horses.” No. 148, 56 pp. [Revised.]

## 360—Comptes Rendus Hebdomadaires des Séances de l'Académie d'Agriculture de France.

- a. RITTER, M., 1949.—“Sur la présence en France de deux petits foyers de nématode dore (*Heterodera rostochiensis* Wollenweber) espèce attaquant les pommes de terre.” 35 (11), 473-475.

(360a) Ritter announces the discovery, for the first time in France, of *Heterodera rostochiensis* on potatoes in two areas of intensive market gardening : one around Dunkirk and the other near Paris in the Seine-et-Oise department. In both cases the outbreaks concern heavily manured sandy soils which have carried potatoes annually. B.G.P.

## 361—Comptes Rendus des Séances de l'Académie des Sciences. Paris.

- a. ROMAN, E., 1949.—“Morphologie comparée de l'appareil reproducteur chez les nématodes Trichuroidae.” 229 (24), 1368-1370.

(361a) From a comparative study of the genitalia in the Trichuroidae, Roman divides this group into two families, namely Trichuridae containing *Trichuris* and *Capillaria*, and Trichinellidae containing *Trichosomoides* and *Trichinella*. R.T.L.

## 362—Comptes Rendus des Séances de la Société de Biologie. Paris.

- a. MASQUELIER, J. & BAILENGER, J., 1949.—"Rôle des bactéries dans l'apparition des propriétés hémolytiques des extraits d'*Ascaris*." 143 (17/18), 1188-1189.
- b. FLOCH, H. & ABONNENC, E., 1949.—"*Mansonella ozzardi* et *Culicoides furens* dans les départements français du continent américain." 143 (19/20), 1343.
- c. LAGRANGE, E. & SCHEECQMANS, G., 1949.—"La bilharziose expérimentale du cobaye." 143 (19/20), 1396-1399.
- d. LAGRANGE, E., SCHEECQMANS, G. & PROMEL, R., 1949.—"Sur diverses modalités d'infestation des *Planorbis glabratus* par *Bilharzia mansoni*." 143 (23/24), 1605-1607.

(362a) Fresh extracts of *Ascaris* are non-haemolytic but become haemolytic through bacterial action [see Helm. Abs., 18, No. 11a]. By using papain in place of bacteria, Masquelier & Bailenger have produced the same phenomenon. It is therefore by their proteases that the bacteria act. The haemolytic substance, lipoid in character, is thus probably present in *Ascaris* in the form of an inactive lipoid-protein complex. R.T.L.

(362b) Floch & Abonnenc note that *Mansonella ozzardi* is found frequently in association with *Acanthocheilonema perstans* in British Guiana, in the Indians of the forest region. In French Guiana *A. perstans* was found by them only in Senegalese soldiers. *Culicoides furens* is very common on the shores of Guadeloupe, and *C. debilipalpis* is rare. In Guiana, on the other hand, *C. furens* is rare, for out of 1,820 blood-sucking Ceratopogonidae caught and identified, 216 were *C. paraensis* and only two were *C. furens*. J.J.C.B.

(362c) Lagrange & Scheecqmans record their observations on the development of *Schistosoma mansoni* in guinea-pigs. Cercariae from one snail always produce worms of the same sex. They disagree with Vogel that hermaphrodites were produced when only males were present. Hermaphrodites were encountered in animals in which both sexes were present in the animal. A photograph is produced showing a male within the gynaecophoric canal of another male. The non-appearance of eggs in the faeces of guinea-pigs infected with both males and females is attributed to the production of infertile eggs. P.L.Ier.

(362d) The authors believe that there are biological strains of both *Schistosoma mansoni* and *Planorbis glabratus* and that these are characterized by different degrees of susceptibility to infection by each other. Snails which had a high percentage of infection were isolated and only their descendants used for passaging a strain of *S. mansoni*. This resulted in a consistently high infection rate even after the sixth passage. In other snails it was observed in eight instances that cercarial emission ceased soon after it had begun and that these snails lived for a long time afterwards. J.J.C.B.

## 363—Connecticut Farmer.

- \*a. HAWKINS, A., 1949.—"A threat to Connecticut potato growers : golden nematode." 4 (5), 5.

## 364—Cornell Veterinarian.

- a. WHITLOCK, J. H., 1949.—"The relationship of nutrition to the development of the trichostrongylidoses." 39 (2), 146-182.

(364a) Whitlock defines trichostrongylidoses as clinical diseases caused wholly or in part by nematodes of the family Trichostrongylidae. The suffix -osis he reserves for cases of clinical disease associated with relatively pure infection by one genus, and non-clinical parasitic infections are indicated by the suffix -iasis. Primary helminthosis is, for him, a disease due to a specific parasite or group of parasites, while secondary helminthosis is a disease in which parasites play an auxiliary or secondary role. Trichostrongylosis is held to be a secondary helminthosis rarely, if ever, existing as an uncomplicated disease, and there is no conclusive evidence that sheep are harmed by trichostrongyliasis. Haemonchosis is characterized by anaemia due to blood-letting and



may be a primary disease in sheep, and is unquestionably also a secondary helminthosis. Nematodirus, Cooperia and Ostertagia infections are not likely to be primarily the cause of disease in sheep. Ostertagia may be a primary pathogen in cattle and usually a secondary one in sheep. Nutritional factors play an important part in the development of trichostrongylidoses. In cattle even more than in sheep there is evidence of natural resistance. Age resistance in trichostrongylidoses has never been clearly demonstrated. Goats appear to be less resistant than other domesticated animals. Diet appears to influence the species as well as the numbers of worms establishing themselves in sheep. "Growth overcompensation" has been observed in primary and secondary trichostrongylidoses and in simple malnutrition in lambs. In the prenatal and postnatal nutrition of lambs the ewes may play an important part. Improved pastures may not provide a sufficiency of calories for ordinary grade lambs. Overcrowding *per se* is of less significance than caloric intake in the prevention and control of trichostrongylidoses.

R.T.L.

### 365—Cyprus Medical Journal.

- a. SHELLEY, H., 1949.—"Modern treatment—series. No. 2. Diseases due to helminths." Year 1948-49, 2 (2/3), 39.

### 366—Deutsche Medizinische Wochenschrift.

- a. GÄRTNER, H. & MÜTING, L., 1949.—"Beitrag zur Verbreitung der Wurmkrankheiten." 74 (27/28), 881-883.  
b. MENDHEIM, H. & SCHEID, G., 1949.—"Erfahrungen mit Phenothiazin in der Therapie der Oxyuriasis." 74 (33/34), 1022-1023.

(366a) After reviewing recent literature on the high incidence of human helminth infections in Germany, Gärtner & Müting give the results of their own survey in the Münster district. Of 783 faecal samples sent in to the Institute of Hygiene, 496 (63.3%) were positive: of these, 361 (72.8%) had *Ascaris*, 376 (75.8%) *Enterobius*, 23 (4.8%) *Trichuris*, and 8 (1.6%) *Taenia*. At a kindergarten 30 faecal examinations showed five positive for *Ascaris* and twelve for *Enterobius*. Of 46 anal smears taken at the Children's Clinic, 41 showed *Enterobius* infection. Faecal examination of a group of 123 girls aged 20-23 years and living in very good hygienic conditions revealed that 73 (59.4%) were positive for *Ascaris*, *Enterobius*, or both. Workers in irrigation fields were also examined and 65 out of 82 (79.3%) were positive for helminths. The danger to the health of workers from irrigation with untreated sewage is emphasized.

A.E.F.

(366b) Mendheim & Scheid report successful treatment of enterobiasis with phenothiazine, given in the form of "Reconox" Labofach tablets. Each tablet contains 0.1 gm. phenothiazine: adults were given two tablets three times a day for 10 days (6 gm. in all) and children under ten received half this dose. Of 200 persons treated (including 50 children), 159 (79%) were cured after a single treatment; a further 13 (6.5%) were cured after a second treatment, while 28 (14%) still showed infection even after a second treatment. There were no secondary effects.

A.E.F.

### 367—Día Médico. Buenos Aires.

- a. CASIRAGHI, J. C., 1949.—"Equinococosis vertebral, diagnóstico y tratamiento." 21 (10), 359-363.  
b. SEPICH, M. J. & SAGASTUME, J. M., 1949.—"Quiste hidático del hemisferio cerebral izquierdo." 21 (15), 600-602.  
c. VANNI, V., 1949.—"Observaciones de técnica parasitológica aplicada a la clínica." 21 (25), 1005-1008.  
d. RIVAS, C. I. & ARDENGHI, V. F., 1949.—"Equinococosis hidatídica peritoneal. Diagnóstico radiológico." 21 (54), 2046-2050.

### 368—Diamond Walnut News.

- \*a. ALLEN, M. W., 1949.—"Root-lesion nematodes injure walnut trees." 31 (4), 4-5.

## 369—Dokladi Akademii Nauk SSSR.

- a. BELOPOLSKAYA, M. M., 1949.—[The "stinging organ" in the trematode *Spiculotrema litoralis* n.g., n.sp. (Fam. Microphallidae Travassos, 1921).] 67 (1), 205-208. [In Russian.]
- b. PAVLOVSKI, E. N. & GNEZDILOV, V. G., 1949.—[The multiplicity factor in experimental infection with the broad tapeworm.] 67 (4), 755-758. [In Russian.]
- c. BOEV, S. N., 1949.—[Characters of the copulatory organs of the lungworm of mountain goats—*Neostromylus zvetskovi* n.sp.] 67 (4), 759-761. [In Russian.]
- d. SCHULZ, R. S., KADENATSII, A. N. & ANDREEVA, N. K., 1949.—[Anatomical structure of the male genitalia in the nematode genus *Neostromylus* Gebauer, 1932.] 67 (4), 763-765. [In Russian.]
- e. KOVAL, V. P., 1949.—[A new species of *Bucephalus* in Dnieper fishes.] 68 (1), 205-208. [In Russian.]
- f. SMIRNOV, G. G. & KAMALOV, N. G., 1949.—[Inoculation of the bacteria of haemorrhagic septicemia by skin infection with ancylostome larvae.] 68 (6), 1155-1157. [In Russian.]
- g. MACHULSKI, S. N., 1949.—[Helminths of sables in the Buriat-Mongol Republic.] 69 (4), 597-599. [In Russian.]
- h. SCHULZ, R. S. & KADENATSII, A. N., 1949.—[Phylogenetic connections between the lungworms of rodents and of Artiodactyla.] 69 (5), 707-709. [In Russian.]

(369a) Belopolskaya describes *Spiculotrema litoralis* n.g., n.sp., of the family Microphallidae, from the intestine and intestinal caeca of *Tringa incana*, *Arenaria interpres*, *Calidris alpina* and *C. ruficollis*. Its main differential character is the "stinging organ", a chitinous structure adjoining the genital region. It is thought that this organ plays a role in copulation. C.R.

(369b) To support the trends at present dominating Soviet biology, Pavlovski & Gnezdilov undertook an investigation to explain the host-parasite relationship of *Diphylllobothrium latum* in the small intestine of puppies. They infected a number of puppies with this tapeworm experimentally and found that when a puppy received 13 plerocercoids, 12 (92.3%) became established, with strobila 15-100 cm. long, average 70 cm. When a puppy received 100 plerocercoids, 91 (91%) became established, with strobila 2-150 cm. long, average 38.1 cm. When fed 200 plerocercoids, 177 (88.5%) became established, with strobila 1-65 cm. long, average 17 cm. When fed 500 plerocercoids, 460 (92%) became established, with strobila 0.5-49 cm. long, average 13.4 cm. When fed 1,000 plerocercoids, 718 (71.8%) became established with strobila 0.5-40 cm. long, average 5.7 cm. Thus when a larger number of plerocercoids establishes in the small intestine of a puppy, the length of the tapeworms is more varied and the average length is greatly reduced. Variation in the length appears to depend on the part of the intestine where the tapeworms attach and develop. Pavlovski & Gnezdilov found that worms developing in the middle and posterior part of the small intestine were shorter than those developing in the anterior part in the same puppy. They found also that some of the tapeworms measuring only 4 cm. in length possessed well developed genital organs and the uterus was full of eggs. These results are interpreted to mean that there is no internal warfare among the species in an unchanged environment—which is the small intestine of the dog—when there is the usual amount of food. C.R.

(369c) Boev describes the male of *Neostromylus zvetskovi* n.sp. from the lung tissue of *Capra sibirica*. It differs from *N. linearis* in (i) the character and length of the telamon, (ii) the character of the chitinous arc, and (iii) the different length of the spicules. A key to the genus *Neostromylus* is included. C.R.

(369d) Schulz, Kadenatsii & Andreeva give a redescription of *Neostromylus linearis* with special reference to the complicated structure of the genitalia. A new diagnosis of the genus *Neostromylus* is based on this study. C.R.

(369e) Koval describes *Bucephalus markewitschi* n.sp. from the intestine of *Esox lucius* and *Lucioperca lucioperca* found in the river Dnieper. It differs from *B. polymorphus*, which commonly occurs in both these fishes and in *Perca fluviatilis*, in the position of the vitelline glands and the intestine. The left vitelline gland is always twice as long as the



right, and the posterior follicles are situated below the posterior margin of the ovary. The oesophagus and intestine are directed posteriorly. Both species are described. C.R.

(369f) Smirnov & Kamalov placed *Pasteurella bovisseptica* on the skin of rabbits and golden hamsters, together with larvae of *Necator americanus*. They found that in all cases the experimental animals developed haemorrhagic septicaemia and died, although in control animals with *P. bovisseptica* alone no deaths occurred. C.R.

(369g) Machulski examined 51 sables in the Buriat-Mongol Republic and found 37 of them infected with the following helminths: *Taenia hydatigena*, *Capillaria putorii*, *Molineus patens*, *Ascaris columnaris*, *Soboliphyme baturini*, *Thominox aerophilus*, *Filaroides bronchialis*, *Crenosoma taiga*, *Skrjabingylus petrowi* and *Uncinaria skrjabini* n.sp., which differs from *U. stenocephala* in the presence of twelve tooth-like structures in the anterior part of the oesophagus and in having spicules twice as long as those of *U. stenocephala* and provided with broader alae. C.R.

(369h) Schulz & Kadenatsii give a description of *Protostrongylus tauricus* n.sp. from the lungs of *Lepus europaeus*. Its main character is the length of the spicules which at their distal ends are provided with wide alae. The accessory pieces at their hinder portions carry 4-6 teeth. The larval stage develops in *Helicella krynickii*. A key is included for the identification of the five species of *Protostrongylus* so far known in hares and rabbits. In their phylogenetic discussion, Schulz & Kadenatsii consider the members of the genus *Protostrongylus* as parasites primarily of the Ovicaprinae, with a more recent adaptation to the Leporinae. C.R.

### 370—Down to Earth. Midland, Michigan.

- a. DIETER, C. E. & COULTER, L. L., 1949.—“Dowfume MC-2 . . . for fumigation of plant beds.” 4 (4), 2-5.

(370a) MC-2 (2% chloropicrin in methyl bromide, available in sealed 1-lb. cans) was applied at rates of  $\frac{1}{2}$  to 2 lb. per 100 sq. ft., for periods of 24 to 48 hours under Sisalkraft paper, in order to control weeds. The excellent growth of seedlings in treated soil is attributed partly to the elimination of weed competition and partly to the killing of root-knot and meadow nematodes. Methyl bromide is toxic, and the 2% chloropicrin is added as a lachrymatory warning agent. B.G.P.

### 371—East African Medical Journal.

- a. WRIGHT, F. J., 1949.—“Re: The tribal distribution of Bilharzia in East Africa.” [Correspondence.] 26 (8), 235.  
b. BARNLEY, G. R., 1949.—“Onchocerciasis in Kigezi District, Uganda.” 26 (10), 308-310.  
c. WILKINSON, P. R., 1949.—“Some observations on microfilariæ in Africans at Jinja.” 26 (11), 344-346.

(371a) Wright refers to Dewhurst's article bearing this title in *E. Afr. med. J.*, 1949, 26 (4), 90-92 [published also in *J. trop. Med. Hyg.*, 1949, 52 (3), 60-61 (for abstract see *Helm. Abs.*, 18, No. 26g)]. Dewhurst recorded urinary bilharziasis in Kenya Army servicemen only in members of the Jaluo tribe, but Wright points out that both *Schistosoma haematobium* and *S. mansoni* constitute a major public health problem among the Kamba, Lumbwa and Kipsigis tribes listed as “negative” by Dewhurst. The fallibility of records based on a selected portion of the community is emphasized. E.M.S.

(371b) Skin snips taken from 1,847 persons out of 2,000 examined in Kinkizi County, Kigezi District, showed microfilariæ of *Onchocerca volvulus* in 67%. Skin symptoms were obvious in 35%, 10% showed nodules, and 4.7% were blind. The incidence increased linearly between the age groups 10-15 years (30%) and 35-40 years (78%) and reached 84% in the 50-55-year group. Infection was heaviest (80%) in the most heavily forested region close to the largest river, the Ishasha, and was lightest (30%) in

a comparatively treeless cultivated area devoid of fast streams. The local vector could not be determined; *Simulium neavei* is indicated but appeared to be rare, and a species of *Culicoides* may be involved. E.M.S.

(371c) The high incidence of onchocerciasis around Jinja in Uganda, where *Simulium damnosum* is very prevalent, is confirmed. By dissecting simuliids fed upon suspected persons a higher yield of positives was obtained than by the skin-snip method. R.T.L.

### 372—Encyclopédie Vétérinaire Périodique.

- a. GUILHON, J., 1949.—“Thérapeutique anthelminthique et dérivés triphénylméthaniques.” Year 1949, No. 1/2, pp. 37–51.
- b. QUARANTE, M., 1949.—“Du traitement des bronchites vermineuses par injections sous-cutanées d'un complexe organo-arsénical.” Year 1949, No. 3/4, pp. 82–86.

(372a) Guilhon, after reviewing exhaustively the literature of triphenylmethane derivatives published since 1926 when Faust first drew attention to their potential anthelmintic value, concludes that these substances, especially gentian violet, methyl violet, malachite green and basic fuchsin are only of laboratory interest and should not be prescribed for individuals or in mass treatment. R.T.L.

(372b) Quarante claims a 70% to 80% success in the treatment of pulmonary verminoses in sheep, cattle and pigs by intravenous injections of an [undisclosed] arsenical complex. R.T.L.

### 373—Farmers Weekly. London.

- a. ROBERTSON, D., 1949.—“Potatoes in peril.” 31 (19), 49.

### 374—Farming in South Africa.

- a. DE KOCK, G., 1949.—“In the service of the livestock industry. Helminthology.” [Report of the Division of Veterinary Services for the year ended 31 August, 1949.] 24 (285), 525.
- b. NAUDE, T. J., 1949.—“Research on the control of insect pests.” [Report of the Division of Entomology for the year ended 31 August, 1949.] 24 (285), 574–581.

(374a) In his annual report from the Department of Agriculture, Union of South Africa, the Director of Veterinary Services states that the helminthological projects under way deal with (i) the biology and control of *Paramphistomum* spp. and the susceptibility of various snails to this infection; (ii) the life-cycle and control of *Chabertia*, *Nematodirus* and *Cysticercus* spp. in cattle and pigs; and (iii) the cause of death of fishes in the Bon-Accord Dam. R.T.L.

(374b) In tobacco seed-beds experiments for the control of *Heterodera marioni* with D-D and Dowfume W40 gave equally good results at the rate of 60 gal. to the acre. For success with D-D, soil moisture proved to be important. A locally developed machine attached to a 2–3-furrow plough placed the fumigant in the furrow behind each plough-share. The furrow was immediately closed and the soil rolled down by a roller on which the machine was built. Potato tubers infected with *H. marioni* were fumigated with methyl bromide at the rate of 1 lb. to 750 cu. ft. at 60°–65°F. A number of the tubers were burnt by the chemical, and *H. marioni* eggs taken from treated tubers developed normal larvae after incubation for 14 days. R.T.L.

### 375—Federation Proceedings. Experimental Biology.

### Federation of American Societies for

- a. BUEDING, E., 1949.—“Anaerobic and aerobic glycolysis of parasitic tissue helminths.” [Abstract of paper to be presented at the 40th Annual Meeting of the American Society of Biological Chemists, Inc., Detroit, Michigan, April 18–22, 1949.] 8 (1), 188–189.



- b. BIETER, R. N., CRANSTON, E. M., CHADBourn, W., CUCKLER, A. C., DEGIUSTI, D., BECKLUND, W. W. & WRIGHT, H. N., 1949.—“Chemotherapeutic effect of 8-amino quinolines in *Schistosoma mansoni* infections in mice.” [Abstract of paper to be presented at the 39th Annual Meeting of the American Society for Pharmacology and Experimental Therapeutics, Inc., Detroit, Michigan, April, 18–22, 1949.] 8 (1), 275.

(375a) Lactic acid is not a major end-product of the anaerobic carbohydrate metabolism of helminths in the intestine or bile ducts but it accounts for 80% of the carbohydrate used anaerobically by *Litomosoides carinii* and *Schistosoma mansoni*. In *Litomosoides* glycolysis was greatly reduced by aerobiosis, and a large amount of energy derived from oxidative reactions is essential for survival. In schistosomes and in *Dracunculus insignis* the rates of glucose utilization and of lactic acid production remained constant under anaerobic and aerobic conditions. Dithiopropanol greatly enhanced the inhibitory action of p-chloromercuric benzoate on glycolysis of the schistosomes. R.T.L.

(375b) When administered in the diet to mice four to six weeks after experimental infection with *Schistosoma mansoni* from *Australorbis glabratus* and continued for one, two or four weeks, SN2842 (6-methoxy-8-B diisobutylaminoethylamino quinoline dihydrochloride) and SN3501 (6-methoxyl-8-diisobutylamino-isopropylamino quinoline dihydrochloride) showed a relatively high chemotherapeutic activity. Of 32 mice given SN3501 in a concentration of 0.1% for two weeks, 85% contained no schistosomes at autopsy. With SN2842 given in the same way 97% of 39 mice were negative. Neither drug was prophylactic when administered at the time of infection. R.T.L.

### 376—Fragmenta Faunistica Musei Zoologici Polonici.

- a. ŻARNOWSKI, E., 1949.—“Przyczynek do poznania nicieni pasożytniczych przewodu pokarmowego owiec w Polsce.” 6 (3), 35–93. [In Polish: French summary pp. 92–93.]

(376a) Żarnowski in his survey of 40 sheep from the Lublin district of Poland reported the following nematodes from the alimentary tract: *Strongyloides papillosus*, *Oesophagostomum venulosum*, *Chabertia ovina*, *Bunostomum trigonocephalum*, *Trichostrongylus axei*, *T. colubriformis*, *T. vitrinus*, *Ostertagia ostertagi*, *O. circumcincta*, *O. trifurcata*, *Cooperia curticei*, *C. oncophora*, *C. mcmasteri*, *Haemonchus contortus*, *Nematodirus spathiger*, *N. helvetianus*, *Skrjabinema ovis*, *Trichuris ovis* and *T. skrjabini*. *Cooperia mcmasteri* and *Trichuris skrjabini* are recorded for the first time from Central Europe. C.R.

### 377—Friesch Landbouwbblad.

- \*a. JANSEN, J., 1949.—[Intestinal parasites in poultry.] 46, 383. [In Dutch.]

### 378—Gaceta Médica Española.

- a. GONZÁLEZ CASTRO, J., 1949.—“Fasciolosis humana y animal.” 23 (1), 17–22.  
 b. FIGUERIDO, A. & FIGUERIDO, J. L., 1949.—“Perspectivas quirúrgicas más frecuentes de las ascariodiosis.” 23 (5), 179–180, 182–184.  
 c. GONZÁLEZ CASTRO, J., 1949.—“Diagnóstico de laboratorio de las fasciolosis humana y animal.” 23 (6), 228–231; (7), 253–255; (8), 298–303; (10), 369–372.

### 379—Ganadería. Madrid.

- \*a. DÍAZ UNGRÍA, C., 1949.—“Campana antiparasitaria: lucha contra los vermes.” 7, 61–65.  
 \*b. BELTRAN, J. M., 1949.—“Enfermedades parasitarias de las aves—la heteraquirosis.” 7, 408–409.

### 380—Gazeta Médica Portuguesa.

- a. LÖFFLER, W., ESSELIER, A. F. & MACEDO, M. M., 1949.—“Sobre a patogenia e etiologia do infiltrado pulmonar fugaz com eosinofilia sanguínea (síndrome de Löffler).” 2 (1), 1–17. [English & French summaries pp. 16–17.]  
 b. CRUZ FERREIRA, F. S., 1949.—“As parasitoses intestinais na Guiné Portuguesa.” 2 (1), 148–152.

(380a) By administering embryonated *Ascaris* eggs to guinea-pigs the syndrome of evanescent pulmonary infiltration with eosinophiles has been produced. R.T.L.

(380b) Cruz Ferreira gives the results of faecal examinations carried out by the Willis, Telemann-Lima or Faust method on 505 of 2,340 outpatients of the Institute of Tropical Medicine in Portuguese Guinea. The patients examined were of all races and not all of them had digestive disturbances. Helminths were found alone or as mixed infections or with protozoal infections in 265 as follows: hookworms in 216, *Taenia* spp. in 31, *Trichuris* in 14, *Ascaris* in 7, *Strongyloides* in 6, *Enterobius* in 6, and *Trichostrongylus* in 2. E.M.S.

### 381—Gazette Médicale de France.

- a. MONDAIN, 1949.—“Les filarioses.” 56 (12), 483-485.
- b. RAYNAL, J. H., 1949.—“Schistosomiasis.” 56 (12), 488-491.
- c. BORDES, 1949.—“L'ankylostomiase.” 56 (12), 495.

### 382—Giornale Italiano di Chirurgia. Naples.

- a. IMPERATI, L., 1949.—“Trattamento dell'echinococco polmonare mediante chiusura per prima con tecnica in due tempi.” 5 (4), 213-221.

### 383—Hahnemannian. Philadelphia.

- a. FLINN, Jr., J. E., 1949.—“*Oxyuris vermicularis* and *Ascaris lumbricoides*.” 84 (3), 181-183.

### 384—Harefuah.

- a. YOELI, M., STEINITZ, H., GERICHTER, C. & RABINOWICZ, K., 1949.—[The incidence of intestinal infections in kitchen-personnel of the army.] 37 (7), 83-84. [In Hebrew: English summary p. 84.]

(384a) Helminth infections were found in 185 (37.3%) out of 496 army food-handlers examined, as follows: *Trichuris* in 153, *Ascaris* in 65, *Taenia saginata* in 8, *Hymenolepis nana* in 7, *Enterobius* in 2 and *Trichostrongylus* sp. in 1. Of 303 members of the Ashkenasic community, 75 (24.8%) were infected, but of 147 members of the Sephardic community, 83 (56.5%) were infected. This striking difference is attributed to differences in habits, environment and exposure to infection. E.M.S.

### 385—Hassadeh.

- a. SHWEIG, K. & GARMI, I., 1949.—[Stocks immune to nematodes.] 29 (11), 495-498. [In Hebrew.]

### 386—Helvetica Medica Acta. Series A.

- a. ANTOGNINI, R., 1949.—“Le problème de la trichocéphalose au Tessin.” 16 (3/4), 366-373.

### 387—Higiiena i Sanitariya. Moscow.

- a. VASILKOVA, Z. G., 1949.—[Efficacy of the principal methods used in controlling helminth eggs in nightsoil and sewage water.] No. 11, pp. 46-48. [In Russian.]

(387a) Vasilkova discusses the effectiveness of the different methods used for the destruction of helminth eggs in nightsoil and sewage water (biothermy, burning and chemical disinfection). She recommends the following method to prevent the distribution of helminths when sewage water is used for the irrigation of fields: (i) purification of sewage in sedimenting tanks, (ii) care in growing of vegetables so as to insure the minimum contact of vegetables with the sewage, and (iii) careful washing of vegetables which are used uncooked. [See also Helm. Abs., 15, No. 630k.] C.R.



**388—Hoja Tisiológica. Montevideo.**

- a. GINÉS, A. R., 1949.—“Estado actual de la hidatidosis en el Paraguay.” 9 (3), 244-247.

(388a) Ginés records that hydatid cysts were found in only 438 out of more than 1½ million cattle slaughtered during the four years 1944 to 1947, i.e. in 0.034%. He gives notes on four human cases seen between 1942 and 1947.

E.M.S.

**389—Hospital. Rio de Janeiro.**

- a. ARMBRUST, A. DE F., 1949.—“Miocardite esquistossomótica (forma granulomatosa). Nota prévia.” 36 (2), 213-218. [English summary p. 218.]  
 b. REZENDE ALVES, J. B. DE, 1949.—“*Ascaris lumbricoides* no colédoco.” 36 (4), 573-575.

**390—Illinois Medical Journal.**

- a. KNIGHT, A. A. & PEARL, E., 1949.—“The incidence of intestinal parasitic infections in a Chicago dispensary.” 95 (5), 298-299.

(390a) Of 296 out-patients examined in a Chicago dispensary, three had *Enterobius vermicularis*, four had “*Oxyuris incognita*”, one had *Trichuris trichiura*, one had Strongyloides, two had *Taenia saginata*, and one had *Hymenolepis nana*.

R.T.L.

**391—Indian Journal of Surgery.**

- a. AGARWALA, R. L., 1949.—“Hydatid cyst of the parotid gland.” 11 (3), 188-189.

**392—Indian Journal of Veterinary Science and Animal Husbandry.**

- a. RAJENDRAN, M. S., 1949.—“Investigation into the causes of general deterioration of cattle in Malabar and South Kanara (Madras Presidency).” 19 (1), 59-67.

(392a) In this nutritional study of the causes of stunted growth and poor milk-yield in cattle on the west coast of the Madras Presidency, the greatest trouble was the mortality among calves under one year old from strongyle infections (*Haemonchus* and *Mecistocirrus*), for which copper sulphate and nicotine was an effective treatment. Large doses of mineral mixture and salt did not significantly improve their condition and it is not known if the inadequate ration or the lack of vitamins A and B were responsible.

R.T.L.

**393—Indian Medical Gazette.**

- a. TILAK, C. T., 1949.—“Guinea-worm town of Gingee.” [Correspondence.] 84 (9), 429.  
 b. BHANDARI, R. M., 1949.—“Penicillin in guinea-worm infection.” 84 (12), 548-550.

(393a) The indigenous population of Gingee remove guineaworm by applying castor oil and massage to the ulcer after the blister has burst. Tilak has seen a worm nearly three feet long removed in its entirety by this method, which occupies about five minutes. It is applicable only in accessible parts. A less common method is to tie a length of twine or fibre to the protruding worm. This is then lit and as the heat travels up the fibre, the worm wriggles out.

R.T.L.

**394—Information Series. Department of Scientific and Industrial Research, New Zealand.**

- a. ATKINSON, J. D., BRIEN, R. M., CHAMBERLAIN, E. E., COTTIER, W., JACKS, H., REID, W. D. & TAYLOR, G. G., 1949.—“Tomato diseases and pests in New Zealand and their control.” No. 2, 112 pp.  
 b. BLAIR, I. D. & MORRISON, L., 1949.—“Wheat diseases and insect pests.” No. 3, 59 pp.

**395—Journal of the American Medical Association.**

- a. COVEY, J. A., McMAHON, J. J. & MYERS, H. L., 1949.—“Trichinosis as a cause of major arterial thrombosis.” 140 (15), 1212-1213.

## 396—Journal of Entomology and Zoology.

- a. MAXON, M. G. & PEQUEGNAT, W. E., 1949.—"Cercariae from Upper Newport Bay." 41 (1), 30–55.

(396a) A study of the cercarial types infecting the molluscan species *Cerithidea californica* in Upper Newport Bay showed that 44·6% of 293 specimens examined contained cercariae. Types found were a furcocercous cercaria probably identical with *Cercaria cerithidia* 28 Hunter, 1943 (unpublished), two pleurolophocercous cercariae closely related to *Cercaria Indicae* VIII and *Cryptocotyle lingua*, three echinostome cercariae of which two are probably identical with *Himasthla quissetensis* and *Parorchis avitus* and the third is believed to be a new species, and a monostome xiphidiocercaria probably of *Spelotrema nicolli*. Metacercarial cysts occurred in 94·2% of *Melampus olivaceus*, and some crabs, clams and fish of the estuary also carried cysts. The dowitcher, a migratory bird, contained adult echinostome and heterophyid flukes, and it is considered that some Pacific cercariae may prove to be identical with Atlantic forms. The cercariae are considered to be highly variable and it is suggested that, for instance, the number of flame cells may vary with the salinity of the environment.

E.M.S.

## 397—Journal Français de Médecine et Chirurgie Thoraciques.

- a. CARDIS, F., 1949.—"L'ascaridiose pulmonaire à propos d'études expérimentales récentes." 3 (3), 230–236. [Discussion pp. 237–238.]

## 398—Journal of Laboratory and Clinical Medicine.

- a. BURLINGAME, P. L. & GARDNER, H. T., 1949.—"Intestinal parasitism in American troops in Germany. Relation to transmission of viral hepatitis." 34 (9), 1284–1289.

(398a) A survey of intestinal parasitism among American Occupation Forces in Germany and indigenous German personnel threw no light on the epidemiology of viral hepatitis. Of a total of 1,705 indigenous persons examined, 10% had acquired *Ascaris lumbricoides*, 11% *Trichuris trichiura*, 3% *Enterobius vermicularis*, 0·1% *Hymenolepis nana*, 0·1% hookworm and 0·1% *Strongyloides stercoralis*; while in 644 military personnel the helminth incidence was *Ascaris lumbricoides* 1%, *Trichuris trichiura* 1%, *Enterobius vermicularis* 1%, *Hymenolepis nana* 0·1%, hookworm 5%, and *Strongyloides stercoralis* 0·1%.

R.T.L.

## 399—Journal of the Linnean Society of London. Zoology.

- a. PRUDHOE, S., 1949.—"Some roundworms and flatworms from the West Indies and Surinam.—III. Trematodes." 41 (281), 415–419.

(399a) In a collection of parasitic worms from the neighbourhood of Paramaribo, Surinam, there were several examples of *Sticholecitha serpentis* n.g., n.sp. from a snake, *Chironius carinatus*. The body is boat-shaped. The vitelline glands are disposed in an elongate group of round or pear-shaped follicles in the dorsal half of the body and extend along the median field from the intestinal bifurcation to the posterior testis. The grouped follicles open independently into a median longitudinal yolk-duct. The new genus belongs to the Plagiorchiidae and approaches *Opisthogonimus* in general morphology. The other trematodes mentioned are *Microphallus* sp. from the opossum *Marmosa cinerea*, and an amphistome provisionally diagnosed as *Cladorchis pyriformis* from *Dasyprocta agouti*.

R.T.L.

## 400—Journal of Mammalogy.

- a. TINER, J. D. & RAUSCH, R., 1949.—"*Syphacia thompsoni* (Nematoda: Oxyuridae) from the red squirrel." 30 (2), 202–203.  
b. DE VOS, A. & ALLIN, A. E., 1949.—"Some notes on moose parasites." 30 (4), 430–431.

(400a) *Tamiasciurus hudsonicus* is recorded as a new host for *Syphacia thompsoni*. A single female of this red squirrel collected at Phelps, Vilas Co., Wisconsin, contained 32 specimens all of which were males.

R.T.L.



(400b) Hydatid cysts were found in three adult moose: one was shot at Hogarth, near Nipigon, the second near Shebandowan, and the third near Ear Falls in Sioux Lookout Forest District, Ontario. *Echinococcus granulosus* was the commonest tapeworm found in timber wolves in northwestern Ontario.  
R.T.L.

401—Journal de Médecine et de Chirurgie Pratiques.

- a. DUMONT, J. H., 1949.—"Infestation parasitaire du tube digestif." 120 (2), 33-39.

402—Journal de Médecine de Lyon.

- a. GARIN, C., 1949.—"Le traitement des grands taenias et du bothriocéphale." 30 (703), 299-301.

403—Journal of the Mount Sinai Hospital, New York.

- a. ARAI, H. S., 1949.—"Sarcosporidiosis in two cases with trichinosis." 15 (6), 367-373.

404—Journal of Obstetrics and Gynaecology of the British Empire.

- a. CHARLEWOOD, G. P., SHIPPEL, S. & RENTON, H., 1949.—"Schistosomiasis in gynaecology." 56 (3), 367-385.

405—Journal of Parasitology.

- a. FILES, V. S. & CRAM, E. B., 1949.—"A study on the comparative susceptibility of snail vectors to strains of *Schistosoma mansoni*." 35 (6, Sect. 1), 555-560.  
b. FISCHTHAL, J. H., 1949.—"*Sanguinicola huronis* n.sp. (Trematoda: Sanguinicolidae) from the blood system of the largemouth and smallmouth basses." 35 (6, Sect. 1), 566-568.  
c. AMEEL, D. J., CORT, W. W. & VAN DER WOUDE, A., 1949.—"Germinal development in the mother sporocyst and redia of *Halipegus eccentricus* Thomas, 1939." 35 (6, Sect. 1), 569-578.

(405a) Files & Cram exposed *Australorbis glabratus* from Puerto Rico, Venezuela and Brazil, *Biomphalaria pfeifferi* from Liberia and *B. boissyi* from Egypt to strains of *Schistosoma mansoni* from Puerto Rico, Venezuela and Egypt, and to a hybrid of Brazilian and Puerto Rican strains of *S. mansoni*. *A. glabratus* from Puerto Rico and from Venezuela were readily susceptible to the Puerto Rican, Venezuelan and hybrid strains, and to a lesser extent to the Egyptian strain. *A. glabratus* from Brazil was refractory to most foreign strains but readily susceptible to the Brazilian × Puerto Rican hybrid strain. There appears to be a physiological difference between *A. glabratus* from Brazil and the same species from the other two countries. *B. pfeifferi* was also susceptible to all strains of the parasite, but *B. boissyi* from Egypt was refractory to all except the Egyptian strain. These results support the view that *S. mansoni* was brought to the Western Hemisphere from West Africa by the importation of slaves and became adapted to a new snail vector, and also that *S. mansoni* endemic in Egypt may be physiologically different from *S. mansoni* of the Western Hemisphere, the latter being more closely related to the West African strain than to the Egyptian strain.  
H.C.

(405b) During a parasitological survey of fish of north-west Wisconsin, Fischthal discovered a new blood fluke from the mesenteric blood vessels of the large-mouthed bass, *Huro salmoides*, and the northern small-mouthed bass, *Micropterus d. dolomieu*. He now describes the species and names it *Sanguinicola huronis* n.sp. It differs from all other species of the genus in that its host is a centrarchid fish, and in having a tandem arrangement of the male and female genital pores.  
H.C.

(405c) In the living miracidium and early mother sporocyst of *Halipegus eccentricus*, there is a posterior germinal mass consisting of unicellular components. As the sporocyst elongates, this mass grows larger and breaks up into a number of individual masses consisting of both unicellular and multicellular components which are attached to the body wall. In the fully mature sporocyst only a single posterior germinal mass is present, and free embryos, developed from the multicellular components, fill the body-cavity. There

## 405—Journal of Parasitology (cont.)

- d. CORT, W. W., AMEEL, D. J. & VAN DER WOUDE, A., 1949.—"Germinal masses in redial embryos of an echinostome and a psilostome." 35 (6, Sect. 1), 579-582.
- e. SCHREIBER, F. G. & SCHUBERT, M., 1949.—"Results of exposure of the snail *Australorbis glabratus* to varying numbers of miracidia of *Schistosoma mansoni*." 35 (6, Sect. 1), 590-592.
- f. REEVES, J. D., 1949.—"A new tapeworm of the genus *Bothriocephalus* from Oklahoma salamanders." 35 (6, Sect. 1), 600-604.
- g. FREEMAN, R. S., 1949.—"Notes on the morphology and life cycle of the genus *Monoecocestus* Beddard, 1914 (Cestoda: Anoplocephalidae) from the porcupine." 35 (6, Sect. 1), 605-612.
- h. STUNKARD, H. W., 1949.—"*Diphyllbothrium stemmacephalum* Cobbold, 1858 and *D. latum* (Linn., 1758)." 35 (6, Sect. 1), 613-624.

is only one generation of rediae in which the development and organization of the germinal material is similar to that of the sporocyst. In natural infections as many as 30,000 to 40,000 cercarial embryos were present in a single snail at the time of examination. The germinal development of *Halipegus*, as compared with that of a psilostome or an echinostome fluke, retains the same general pattern but is considerably more complex. H.C.

(405d) In very small living rediae of an unidentified echinostome fluke from *Helisoma campanulatum smithii* and of *Psilostomum ondatrae* from *H. campanulatum smithii* and *H. antrosom percarinatum*, the germinal mass consists in the very early stages of unicellular components only and it is only later, after some free embryos are present, that some germinal cells remain attached to the mass as multicellular components [see also Helm. Abs. 17, No. 193f]. It is suggested that at a very much earlier stage a single germinal cell lying just behind the intestinal cells gives rise to the germinal mass. H.C.

(405e) Schreiber & Schubert exposed specimens of *Australorbis glabratus* to one, three, seven or twelve miracidia of *Schistosoma mansoni* under uniform controlled conditions. With increasing numbers of miracidia there resulted an increasing percentage of cercaria-producing snails. It was found that at exposure levels of one to seven miracidia per snail, decreasing but still significant percentages of snails fail to shed cercariae ten weeks after exposure. H.C.

(405f) Reeves describes and figures a new species of tapeworm, *Bothriocephalus typhlotritonis* n.sp., obtained from two larval salamanders, *Typhlotriton spelaeus* and *T. nereus* from Grand Lake, Mayes Co., Oklahoma. Comparisons between the new species and species parasitic in marine and exotic hosts are not given, owing to the confused state of knowledge of the latter. Reeves only points out those features in which *B. claviceps*, *B. cuspidatus*, *B. formosus* and *B. rarus* differ from the new species. H.C.

(405g) Freeman gives a brief historical review of the cestodes reported from the intestines of North American porcupines of the genus *Erethizon*. The anoplocephalid genus *Monoecocestus* and the two species *M. americanus* and *M. variabilis* are redescribed, and a complete list of synonyms is included. The ovarian index, the ovary-proglottid index and the position and shape of the testis field are shown to be major criteria for the identification of doubtful specimens of the two species. Freeman records additional observations on the vagina and embryonated egg, and concludes with a preliminary note on the development of both species in at least twelve species of oribatid mites representing eight families. H.C.

(405h) Stunkard traces in detail the taxonomic history of *Diphyllbothrium latum*, in relation to which he discusses *D. stemmacephalum*. Cobbold's type material of *D. stemmacephalum* is redescribed, figured and compared with other diphyllbothriid species. The shape and relative size of the scolex, the course of the uterus and extent of the ovary, and the type and habitat of the hosts provide major points of difference between the two species, but the present limited material of *D. stemmacephalum* has not provided sufficient data on which valid generic concepts can be formulated within the group. H.C.



## 405—Journal of Parasitology (cont.)

- †i. ACKERT, J. E. & GAAFAR, S. M., 1949.—“Phosphorus deficiency a limiting factor in fowl parasitism.” 35 (6, Sect. 2), Suppl. p. 11.
- †j. ACKERT, J. E. & LIGENZOWSKI, F. L., 1949.—“Lethal effects of acetic acid on larvae of *Ancylostoma caninum* in fecal-soil cultures.” 35 (6, Sect. 2), Suppl. p. 11.
- †k. DOUGHERTY, E. C. & NIGON, V., 1949.—“A new species of the free-living nematode genus *Rhabditis* of interest in comparative physiology and genetics.” 35 (6, Sect. 2), Suppl. p. 11.
- †l. LINDQUIST, W. D., 1949.—“Some abnormal host relationships of *Nippostrongylus muris*.” 35 (6, Sect. 2), Suppl. p. 12.
- †m. MAYHEW, R. L., 1949.—“The results of feeding small amounts of phenothiazine in pure infections of the nodular worm (*Oesophagostomum radiatum*) in the calf.” 35 (6, Sect. 2), Suppl. p. 12.
- †n. WHITLOCK, J. H., 1949.—“Thyroid abnormalities as a possible factor in trichostrongylidosis.” 35 (6, Sect. 2), Suppl. pp. 12-13.

(405i) A deficiency in phosphorus in the ration of poultry is a limiting factor in infection with *Ascaridia galli*. Chickens experimentally fed with approximately 200 *A. galli* eggs and kept on a ration high in calcium but low in phosphorus gave from four experiments, an average infection of 3.3, 2.5, 10.5 and 3.3 worms as compared with 9.6, 7.1, 24.2, and 6.4 in controls on an optimal calcium and phosphorus ration. R.T.L.

(405j) Faeces-soil cultures of *Ancylostoma caninum* to which 10% acetic acid had been applied, resulted in an average of less than one larva per gramme of faeces; 5% acetic acid in the culture gave approximately five larvae per gramme; 2.5% yielded an average of 41 larvae per gramme while the controls gave an average of approximately 1,500 per gramme. When 100 larvae were introduced into each culture, two only were recovered from the acetic acid culture and 86 and 82 respectively from the controls. R.T.L.

(405k) *Rhabditis briggsae* n.sp. was isolated from a peanut butter enrichment of soil. It closely resembles *R. elegans* which differs in the isolation of the third pair of bursal papillae from the 4th-6th pairs. Both these species differ from other *Rhabditis* in the cardioid outline of the bursa. *R. briggsae* has been grown indefinitely on sterile pieces of chick embryo, and the first morphological mutant in the Nematoda isolated. R.T.L.

(405l) In the cotton-rat, intense cellular reaction caused the retention and encapsulation of the larvae of *Nippostrongylus muris* in the skin and lungs. In the golden hamster this was seen in the skin only. These reactions are strikingly similar to those shown in the normal host, the laboratory rat, after repeated infections with large numbers of *N. muris* larvae. This suggests that encapsulation in an abnormal host is due to a slowing down of the larva's physiological processes in an unfavourable environment which permits of a foreign body reaction, and not to the presence of antibodies. R.T.L.

(405m) Parasite-free calves were inoculated with pure cultures of infective larvae of *Oesophagostomum radiatum*. Grain concentrate containing 1.5 gm. phenothiazine was fed regularly each evening for six days to four calves, and for 14 days to three calves. No eggs were found in the faeces 6-14 days after the first medicated feed, except in one calf in which the number of eggs became greatly reduced after six days and disappeared 21 days later, four days after the beginning of a second six-day course of treatment. Adult worms were found post mortem in two calves which had been treated for six days and whose faeces had been negative for ten days. R.T.L.

(405n) Some data are given which suggest that an important primary cause of trichostrongylosis is thyroid deficiency and that the prenatal form is the more serious. R.T.L.

† Abstract of paper to be presented at the 24th Annual Meeting, American Society of Parasitologists, New York, December 27, 28 and 29, 1949.

## 405—Journal of Parasitology (cont.)

- †o. TINER, J. D., 1949.—“Preliminary observations on the life history of *Ascaris columnaris*.” 35 (6, Sect. 2), Suppl. p. 13.
- †p. KATES, K. C. & TURNER, J. H., 1949.—“Observations on the pathogenicity of *Nematodirus spathiger* in lambs.” 35 (6, Sect. 2), Suppl. p. 13.
- †q. BEAVER, P. C., 1949.—“A nephelometric method of calibrating the photo-electric light meter for making egg-counts by direct fecal smear.” 35 (6, Sect. 2), Suppl. p. 13.
- †r. SADUN, E. H., TOTTER, J. R. & KEITH, C. K., 1949.—“Effect of purified diets on the host-parasite relationship of chickens to *Ascaridia galli*.” 35 (6, Sect. 2), Suppl. pp. 13-14.
- †s. WEINSTEIN, P. P., 1949.—“The cultivation of the free-living stages of parasitic nematodes in the absence of living bacteria.” 35 (6, Sect. 2), Suppl. p. 14.

(405o) Fatal disturbances of the central nervous system followed the administration to grey squirrels, house mice, cotton-rats, hamsters, guinea-pigs and white-footed mice, of embryonated eggs of *Ascaris columnaris* from a raccoon (*Procyon lotor*). Encapsulated larvae were present in the heart muscle, pericardium, caval veins, lungs and pleura of two squirrels which survived. Two wild fox-squirrels (*Sciurus niger rufiventer*) showed similar larvae in their thoracic viscera. Raccoons and skunks became infected when fed with cotton-rats containing cysts 15-20 days old. Infective eggs of *Ascaris lumbricoides suis*, *Toxocara mystax* and *Parascaris equorum* failed to produce similar symptoms in rodent hosts.

R.T.L.

(405p) Nine parasite-free lambs which were given a single dose of 12,000 to 105,000 infective larvae of *Nematodirus spathiger* did not show observable effects, but five lambs fed with 300,000 to 900,000 larvae each over a three-day period developed diarrhoea in 11-14 days, had anorexia, became weak and emaciated and made poor weight gains. The diarrhoea lasted 7-14 days and ceased within 29 days of infection. No anaemia was observed and there were no deaths. Although faecal examinations showed that heavy infections had been established, few worms were present at autopsy 13 weeks after infection, but the total weight of the infected lambs was still 44½ lb. less than the controls.

R.T.L.

(405q) Diverse types of photo-electric light meters can be calibrated for making egg-counts by direct smear [see also Helm. Abs., 18, No. 25n], by using a suspension of BaSO<sub>4</sub> made up as follows: to two parts of N/1 BaCl<sub>2</sub> solution add one part of pure glycerin, and to two parts of 2N-Na<sub>2</sub>SO<sub>4</sub> add one part of pure glycerin; then add two parts of the former mixture to three parts of the latter drop by drop, stirring constantly, and allow to stand for 24 hours with occasional shaking.

R.T.L.

(405r) Three weeks after inoculation with *Ascaridia galli*, chickens reared on a highly purified diet deficient in pteroylglutamic acid harboured significantly more and longer worms than those which received an adequate amount, indicating a lowered natural resistance. Chickens reared on a purified diet adequate for good growth but containing minimal amounts of vitamin B<sub>12</sub> harboured worms 2.7 mm. long while those on a crude diet gave worms 21.4 mm. long. With the addition of liver extract to the diet, the worms measured 11.1 mm. long as compared with 27.7 mm. in chickens receiving a commercial crude diet. In liver extract there is apparently a substance, possibly vitamin B<sub>12</sub> or the animal protein factor, which is necessary in large amounts for normal growth of the worms.

R.T.L.

(405s) By using fresh chick-embryo or rat-liver extracts containing penicillin and streptomycin, filariform larvae were cultivated from eggs of *Ancylostoma caninum*, *A. duodenale* and *Nippostrongylus muris* in the absence of living bacteria. Rat-liver extract may occasionally contain a powerful growth inhibitor.

R.T.L.

† Abstract of paper to be presented at the 24th Annual Meeting, American Society of Parasitologists, New York, December 27, 28 and 29, 1949.



## 405—Journal of Parasitology (cont.)

- †t. RAPPAPORT, I. & WELLS, H. S., 1949.—“Immunity to reinfection in trichinosis.” 35 (6, Sect. 2), Suppl. p. 14.
- †u. ANDREWS, J. S., 1949.—“Effect of low temperatures on acquisition of parasites by swine.” 35 (6, Sect. 2), Suppl. pp. 14–15.
- †v. GRAHAM, G. L. & MARK, J. H., 1949.—“Giant kidney worm, *Diocotophyma renale*, in a dog.” 35 (6, Sect. 2), Suppl. p. 15.
- †w. MACDONALD, E. M. & SCOTT, J. A., 1949.—“Evidences of acquired immunity in the cotton rat to infection with the filarial worm, *Litomosoides carinii*.” 35 (6, Sect. 2), Suppl. p. 15.
- †x. BRACKETT, S. & BLIZNICK, A., 1949.—“The development of resistance to and the effect of some new chemotherapeutic agents on enterohepatitis induced by the oral administration of cecal worm ova to chickens and turkeys.” 35 (6, Sect. 2), Suppl. pp. 16–17.
- †y. MOULDER, J. W., 1949.—“The oxygen requirements of parasites.” 35 (6, Sect. 2), Suppl. p. 18.
- †z. BUEDING, E., 1949.—“Effect of drugs on metabolism and enzyme systems of parasites.” 35 (6, Sect. 2), Suppl. pp. 18–19.

(405t) In mice reinfected ten days after an initial infection with *Trichinella spiralis*, there was no apparent reduction in the yield of adult worms. In mice reinfected after 35 days or 3½ months, the yield of adults was somewhat lower than in the controls but no great initial loss of worms occurred. There was a considerable diminution in the size of the females and in the number of larvae encysted in the muscles. These results do not support the view that immunity is manifested by an immediate loss from the intestine of a large proportion of the challenging dose.

R.T.L.

(405u) When a minimum air temperature of 20°F. has persisted for only a few hours daily, the infective stages of the nodular worm, whipworm, kidney worm, lung-worm and ascaris in the soil are so adversely affected as to reduce the acquisition of these parasites by pigs.

R.T.L.

(405v) Infection with *Diocotophyme renale* was apparently acquired by a dog from a diet of raw fish and catfish entrails during a fortnight's camping on the French River in Ontario, Canada.

R.T.L.

(405w) There was no marked difference between the percentage of *Litomosoides carinii* which developed in cotton-rats infected for the first time and those repeatedly infected, but the worms which developed in the latter were shorter and less mature on the average, and some showed marked retardation in growth.

R.T.L.

(405x) The pathological condition of the caeca of turkeys suffering from enterohepatitis is unfavourable to the normal development of *Heterakis gallinae*, which develops well in turkeys which are immune to enterohepatitis.

R.T.L.

(405y) In the low oxygen tensions of the intestine, helminths, e.g. ascaris, must depend mainly on anaerobic reactions as energy sources. Those in the blood and tissues are exposed to much higher oxygen tensions but the type of respiratory mechanism partly depends on the enzymic make-up of the parasite. Adaptation to aerobic and anaerobic parasitic existence often accompanies a loss of aerobic respiratory enzymes, particularly iron-porphyrin proteins.

R.T.L.

(405z) Premature interpretation of the chemotherapeutic action of a drug from its effect on a particular metabolic reaction is deprecated. As the biochemical characteristics vary greatly between closely related species, it is necessary to investigate the metabolic characteristics of a particular organism rather than those of more available related forms. The significance of drug action on enzymes must be determined after correlation of observations on isolated metabolic systems and on the parasite in its normal habitat.

R.T.L.

† Abstract of paper to be presented at the 24th Annual Meeting, American Society of Parasitologists, New York, December 27, 28 and 29, 1949.

## 405—Journal of Parasitology (cont.)

- †ba. VON BRAND, T., 1949.—“The carbohydrate metabolism of parasites.” 35 (6, Sect. 2), Suppl. p. 19.
- †bb. GEIMAN, Q. M. & MCKEE, R. W., 1949.—“Protein metabolism of parasites.” 35 (6, Sect. 2), Suppl. p. 19.
- †bc. THOMAS, L. J. & QUASTLER, H., 1949.—“The effects of X-ray on *Rhabditis* species.” 35 (6, Sect. 2), Suppl. p. 20.
- †bd. MALDONADO, J. F., 1949.—“Biological studies on *Schistosoma mansoni*.” 35 (6, Sect. 2), Suppl. p. 20.
- †be. CABLE, R. M. & VERNBERG, W. B., 1949.—“The occurrence of an adult holostome (Trematoda: Cyathocotylidae) in the intestine of a fish.” 35 (6, Sect. 2), Suppl. p. 20.
- †bf. KRUIDENIER, F. J., 1949.—“Mucoid glands in *Fasciola hepatica* cercariae.” 35 (6, Sect. 2), Suppl. pp. 20–21.
- †bg. PIPKIN, A. C., RIZK, E. & BALIKIAN, J., 1949.—“Echinococcosis in Lebanon and its incidence in animal hosts.” 35 (6, Sect. 2), Suppl. p. 21.
- †bh. TINER, J. D. & RAUSCH, R., 1949.—“A natural mammalian final host (*Sorex* sp.) for an acuariid nematode.” 35 (6, Sect. 2), Suppl. pp. 21–22.

(405ba) [No details are given of the problems discussed.]

(405bb) Available information is still too incomplete to provide a clear-cut pattern of protein metabolism in animal parasites. R.T.L.

(405bc) A *Rhabditis* sp. which survived drying for nine months produced scabies in dairy cattle. When subjected to 10,000, 20,000 and 40,000 Roentgen units, the first generation larvae showed accelerated mutation in the production of differences in refractive indices of parts of the intestine containing rhabditin granules. To produce the same effect in the dry state required twice as many Roentgen units as in the wet state. R.T.L.

(405bd) Under shade in the field some eggs of *Schistosoma mansoni* survived eight days in favourable weather but perished within two days in the absence of rain. Direct sunlight killed by the second day. In latrine pits containing some water 5 days' survival was the average. 83% of washed eggs hatched within one hour when exposed to brilliant light, 31% in room light of 5 to 20 foot candles, and 18% in the dark at room temperature or in an incubator at 37°C. R.T.L.

(405be) An undescribed species of *Cyathocotylodes* is reported but not named from 25% of the catfish *Ictalurus punctatus* from the Wabash River, Lafayette, Indiana. R.T.L.

(405bf) In developing cercariae of *Fasciola hepatica* there are hitherto unrecognized unicellular mucoid glands distributed singly in the subcuticula of the dorsal surface and along the dorso-lateral border of the body, and in pairs along the tail. They are transitory, highly metachromatic in thionin, and resemble those described in monostomes. R.T.L.

(405bg) Of 237 stray dogs autopsied at Beirut, 32.9% harboured *Echinococcus granulosus*. In about 10% the infections were massive. 48.05% of 514 beef carcasses were infected but only 36.43% of these had live scolices. The lungs only contained cysts in 55.8%, the liver only in 12.55%. In 30% of the infected animals, cysts occurred in lungs and liver. Of 34 camels, 64.7% had cysts in the viscera with 54.5% of these containing viable scolices. In 500 sheep the incidence was only 6.6% but 62% of the cysts contained live scolices. R.T.L.

(405bh) A nematode resembling a *Dispharynx* sp. was found in 15 shrews at Juneau, Alaska. R.T.L.

† Abstract of paper to be presented at the 24th Annual Meeting, American Society of Parasitologists, New York, December 27, 28 and 29, 1949.



## 405—Journal of Parasitology (cont.)

- †bi. LEVINE, N. D., 1949.—“The food of *Cyathostomum* (Nematoda: Strongylidae) adults.” 35 (6, Sect. 2), Suppl. p. 22.
- †bj. ULMER, M. J., 1949.—“Sporocyst generations of *Postharmostomum laruei* McIntosh (Trematoda: Brachylaemidae).” 35 (6, Sect. 2), Suppl. p. 22.
- †bk. KERR, K. B., 1949.—“An anomalous tapeworm strobila showing reversal of the proglottids.” 35 (6, Sect. 2), Suppl. p. 22.
- †bl. STUNKARD, H. W., 1949.—“Dicrocoelid trematodes from the gorilla.” 35 (6, Sect. 2), Suppl. p. 22.
- †bm. YOUNG, M. D., 1949.—“The incidence of blood parasites in Liberia.” 35 (6, Sect. 2), Suppl. p. 24.
- †bn. FREEMAN, R. S., 1949.—“Temperature, oribatid mites and the development of *Monoecocestus* (Cestoda: Anoplocephalidae).” 35 (6, Sect. 2), Suppl. p. 26.
- †bo. READ, C. P., 1949.—“Preliminary studies on the intermediary metabolism of the cestode *Hymenolepis diminuta*.” 35 (6, Sect. 2), Suppl. pp. 26–27.
- †bp. RISER, N. W., 1949.—“Observations on the nervous system of the cestodes.” 35 (6, Sect. 2), Suppl. p. 27.

(405bi) It is suggested that the adults of *Cyathostomum* sp., one of the small strongyles of the horse, feed on the protozoa and bacteria in the large intestine. R.T.L.

(405bj) An experimental study of the life-cycle of *Postharmostomum laruei* in *Anguispira alternata* shows the presence of mother and daughter sporocysts. Cercariae are well organized in ten weeks when the daughter sporocysts are only 0.5 mm. long, and leave by the birth pore at twelve weeks. R.T.L.

(405bk) A strobila of *Raillietina* sp. from a chicken showed complete double reversal of 12 proglottides with indications of injury at the sites of reversal. R.T.L.

(405bl) A second instance of the presence in the pancreas of the gorilla of *Eurytrema brumpti* is reported. The infection was a heavy one. R.T.L.

(405bm) In Liberia, microfilariae, principally of *Wuchereria bancrofti* were present in 84 (0.83%) out of 10,128 persons examined in a country-wide survey. R.T.L.

(405bn) In the oribatid mites *Liacarus* sp., cysticeroids of *Monoecocestus americanus* and *M. variabilis* of the porcupine were fully formed within 45 days at 25°C., 52 days at 20°C. and 82 days at 15°C. Very immature larvae were found as late as 127 days in mites kept at 5°C. Natural development appears to take place at temperatures under 20°C., for the leaf litter habitat of *Liacarus* sp. had a mean temperature of 17.1°C. during the month of August 1949. R.T.L.

(405bo) Fractionation of acid-soluble phosphorus compounds in “resting” tissue of *Hymenolepis diminuta* was carried out by barium-alcohol separation. Their chemical identification was verified by an isotopic dilution method utilizing radio-active phosphorus. The substances in worm tissues were essentially similar to those concerned with glycolysis in other animals except that phosphagen was apparently absent. Specific enzymes identified were phosphorylase, aldolase, phosphohexoisomerase and 3-phosphoglyceraldehyde dehydrogenase. The phosphatase activity of tissue homogenates was greatest in the anterior quarter of the worm and decreased posteriorly in the second and third quarters. It increased again in the posterior quarter, presumably due to developing eggs. There was evidence that magnesium activation is nullified by a substance in the tissues. R.T.L.

(405bp) In the cestode strobila the major commissures between the two lateral nerve trunks lie in the region of the connection between proglottides and behind anastomoses of the excretory trunks. The commissures can be readily demonstrated in the anterior ends of the free proglottides in *Lacistorhynchus tenuis* and in the attached proglottides of *Phyllobothrium tumidum* and *Scyphophyllidium giganteum*. R.T.L.

† Abstract of paper to be presented at the 24th Annual Meeting, American Society of Parasitologists, New York, December 27, 28 and 29, 1949.

## 405—Journal of Parasitology (cont.)

- †bq. THOMAS, L. J., 1949.—"Interrelations of *Diphyllbothrium* with fish-eating birds of northern Lake Michigan." 35 (6, Sect. 2), Suppl. p. 27.
- †br. KERR, K. B., 1949.—"Infections of chickens with cysticercoids and infected intermediate hosts of *Raillietina cesticillus*." 35 (6, Sect. 2), Suppl. pp. 27–28.
- †bs. McMULLEN, D. B., 1949.—"A plate method of screening chemicals as molluscicides." 35 (6, Sect. 2), Suppl. p. 28.
- †bt. McMULLEN, D. B., ENDO-ITABASHI, T., SETO, S., KOMIYAMA, S. & STONE, P. R., 1949.—"Seasonal studies on *Schistosoma japonicum* in the intermediate host, *Oncomelania nosophora*." 35 (6, Sect. 2), Suppl. p. 28.
- †bu. HUNTER, III, G. W., RITCHIE, L. S., TIGERTT, W. D., LIN, S., PAN, C. & TANABE, H., 1949.—"Immunologic studies. I. Experiments with bird and human schistosomes." 35 (6, Sect. 2), Suppl. pp. 28–29.
- †bv. KAUFMAN, E., HUNTER, III, G. W. & PAN, C., 1949.—"Protection experiments with copper oleate ointment against schistosomiasis." 35 (6, Sect. 2), Suppl. p. 29.

(405bq) The seasonal relationships of *Diphyllbothrium* in gulls and terns and in the intermediate hosts, copepods and herrings, are elucidated by studies on the Beaver Island archipelago in Lake Michigan. R.T.L.

(405br) When fed on infected beetles (*Tribolium* sp.) or infected with the cysticercoids direct, chickens develop *Raillietina cesticillus* sufficiently constantly to provide suitable material for routine testing of drugs for anthelmintic activity. R.T.L.

(405bs) The submerging of amphibious snails in water diluted with chemicals to be tested as molluscicides has certain disadvantages which can be overcome by the use, in a petri dish, of filter paper moistened with the solution to be tested. This made it possible to observe irritancy, toxicity, residual effect and effect of different methods of application. Field tests gave good correlation with those made in the laboratory by this method. R.T.L.

(405bt) In the Yamanashi Prefecture of Japan, *Oncomelania nosophora* became infected with *Schistosoma japonicum* at any time they were active, but mostly between May and July. The highest rate occurred in July and August. After a hot, dry summer the incidence during hibernation was low and nearly all the infections were young. After a wet, cool summer the incidence was higher and about half the infections carried through the winter were mature. A large proportion of the infections acquired early in the summer died out early in the autumn. The duration of an infection was 3–4 months, in some cases 10–12 months. R.T.L.

(405bu) Thirty-six white mice gave no visible skin reaction when exposed twice to cercariae of *Schistosoma japonicum*, but five of the mice gave a detectable reaction to an avian schistosome cercaria which produces marked dermatitis in man. Of 13 rabbits exposed twice initially to avian schistosome cercariae, only one was sensitive but a second exposure within 1–5 days yielded three more reactions. About one month later, five of these rabbits exposed to *S. japonicum* cercariae did not react, whereas five exposed to avian schistosome cercariae all gave marked reactions. Two control rabbits gave lesser reactions to an initial exposure. Ointments of dimethyl and dibutyl phthalate and copper oleate gave a promising degree of protection under laboratory and field conditions. R.T.L.

(405bv) Copper oleate ointment apparently protected 34 out of 36 mice from experimental infection with *Schistosoma japonicum*, whereas when a paraffin-vaseline or pure vaseline mixture was used, the mice became infected. *In vitro* the cercariae lost their motility after 15 to 30 minutes contact with a copper oleate film. R.T.L.

† Abstract of paper to be presented at the 24th Annual Meeting, American Society of Parasitologists, New York, December 27, 28 and 29, 1949.



## 405—Journal of Parasitology (cont.)

- †bw. CORT, W. W., AMEEL, D. J. & VAN DER WOUDE, A., 1949.—“ Multiplication of germinal cells in the rediae of *Clinostomum marginatum*.” 35 (6, Sect. 2), Suppl. pp. 29–30.
- †bx. FISCHTHAL, J. H., 1949.—“ Parasites of northwest Wisconsin fishes.” 35 (6, Sect. 2), Suppl. p. 30.
- †by. AUGUSTINE, D. L. & ISENBERG, H. J., 1949.—“ Clonorchiasis: report of a case in a Caucasian patient observed in Boston.” 35 (6, Sect. 2), Suppl. p. 30.
- †bz. MOORE, D. V., YOLLES, T. K. & MELENEY, H. E., 1949.—“ The relationship of male worms to the sexual development of female *Schistosoma mansoni*.” 35 (6, Sect. 2), Suppl. p. 30.
- †ca. OLIVIER, L. J., 1949.—“ The fate of dermatitis-producing schistosome cercariae in laboratory animals.” 35 (6, Sect. 2), Suppl. pp. 30–31.
- †cb. DEGIUSTI, D. L., 1949.—“ Partial development of *Echinorhynchus coregoni* in *Hyaella azteca* and the cellular reaction of the amphipod to the parasite.” 35 (6, Sect. 2), Suppl. p. 31.
- †cc. ANDERSON, G. C. & SWARTZWELDER, J. C., 1949.—“ Cerebral hydatid infection. Report of a case which recovered following surgical removal of the parasite.” 35 (6, Sect. 2), Suppl. p. 32.
- †cd. HENDRICKS, J. R., 1949.—“ The relationship between numbers of adult *Trichinella spiralis* in the small intestine and the precipitin titer of mice given various test infections.” 35 (6, Sect. 2), Suppl. pp. 34–35.

(405bw) The distribution of germinal cells in the rediae of *Clinostomum marginatum* is very different from that in other families studied, where the persistent germinal masses present at the posterior end of the body-cavity serve as centres of germinal cell multiplication. In *C. marginatum* the germinal cells are scattered in different parts of the body-cavity of the redia, mixed with the embryos, and appear to produce more cercariae from a single infection than hitherto observed in any other trematode. R.T.L.

(405bx) 92.4% of 4,532 fishes taken from streams and lakes in north-west Wisconsin were infected with at least one helminth species. The hardness of the water increased the incidence and intensity of the infections. Larval stages were most frequent. R.T.L.

(405by) The Caucasian patient reported in this brief note had acquired clonorchiasis in Shanghai, China. R.T.L.

(405bz) Female *Schistosoma mansoni* in experimental mice are unable to attain sexual maturity in the absence of male worms. When infection with male cercariae was superimposed, the females completed their development. No sexual development followed the injection of desiccated males or of testosterone, or the implantation of living males in the peritoneal cavity. R.T.L.

(405ca) Conspicuous macroscopic lesions were observed in the lungs of mice exposed to cercariae of *Trichobilharzia ocellata* (*Cercaria elvae*). Worms recovered from the lungs were small, sluggish and apparently moribund but all showed evidence of morphological changes, chiefly loss of glandular material, slight enlargement of the gut and dispersal of eye-spot pigment. Worms and lesions were also observed in some of the hamsters, albino rabbits and rhesus monkeys similarly exposed. Experiments on mice with *T. stagnicola* were negative. R.T.L.

(405cb) *Hyaella azteca* is an abnormal intermediate host for *Echinorhynchus coregoni*. The acanthor after penetrating the amphipod gut is walled off and destroyed by a syncytium of giant cells. In a few instances the acanthor attains the acanthella stage. The acanthor body which is covered with spines has a prominent rostellum armed with blade-like hooks. R.T.L.

(405cd) From experimental infections with *Trichinella* in mice, it was found that there is a quantitative relation in resistance between the number of worms which develop and the antibody titre. R.T.L.

† Abstract of paper to be presented at the 24th Annual Meeting, American Society of Parasitologists, New York, December 27, 28 and 29, 1949.

## 405—Journal of Parasitology (cont.)

- †ce. HENDRICKS, J. R., 1949.—“Comparing in mice the percentage development of *Trichinella spiralis* larvae obtained from a recent and from an old infection in rats.” 35 (6, Sect. 2), Suppl. p. 35.
- †cf. LARSH, Jr., J. E., 1949.—“Tests in mice to determine the relationship of intestinal emptying time and natural resistance to infection with pig ascarid.” 35 (6, Sect. 2), Suppl. p. 35.
- †cg. ALLEN, R. W., 1949.—“Studies on the life history of *Capillaria annulata* (Molin, 1858) Cram 1926.” 35 (6, Sect. 2), Suppl. p. 35.
- †ch. OLIVER-GONZÁLEZ, J., DOBAL, J. M. & THILLET, C. J., 1949.—“*Necator americanus* and *Ancylostoma duodenale* infections in Puerto Rico.” 35 (6, Sect. 2), Suppl. p. 36.
- †ci. TODD, A. C. & HANSEN, M. F., 1949.—“Diet of hens and development of *Ascaridia galli* in their chicks.” 35 (6, Sect. 2), Suppl. p. 36.
- †cj. MITCHELL, J. C., NABRIT, S. M. & SMITH, B. F., 1949.—“The effect of inhibitions, intermediates and a stimulant upon the oxygen consumption in *Ascaridia lineata*.” 35 (6, Sect. 2), Suppl. p. 36.
- †ck. LARSH, Jr., J. E., 1949.—“The effect of pregnancy on the natural resistance of mice to *Hymenolepis* infection.” 35 (6, Sect. 2), Suppl. p. 37.
- †cl. DYE, K. E., KEMPLE, H. M. & WANTLAND, W. W., 1949.—“*Cysticercus fasciolaris* in the wild rat.” 35 (6, Sect. 2), Suppl. p. 37.
- †cm. REID, W. M. & BOLES, J. I., 1949.—“Antibiotics as bacteriostatic agents for the cultivation of cestodes *in vitro*.” 35 (6, Sect. 2), Suppl. p. 37.
- †cn. SCHILLER, E. L., 1949.—“Experimental infections with cysticerci of *Taenia taeniaeformis* in laboratory animals.” 35 (6, Sect. 2), Suppl. pp. 37-38.

(405ce) Infection occurred in 72.5% of the mice which received 300 active *Trichinella* larvae obtained by artificial digestion from a rat infected one month previously, and only in 56.9% of those which received 300 larvae from a rat infected twelve months previously. If this indicates a loss of infectivity, the source of the larvae to be used in studies on resistance becomes important. R.T.L.

(405cg) Allen has confirmed that *Capillaria annulata* is transmitted by *Eisenia foetida* and *Allolobophora caliginosa*, and adds *Lumbricus terrestris* as an additional intermediate host. The eggs became embryonated in 32 days. Development to the infective stage in *A. caliginosa* required 14-21 days, and in *L. terrestris* 21-28 days. Eggs appeared in the faeces of turkeys in 19-25 days and in those of chickens in 19-26 days after infection. R.T.L.

(405ch) Sixty-three convicts coming from various parts of Puerto Rico received tetrachlorethylene for hookworm infection. Sixteen had mixed infections with *Necator americanus* and *Ancylostoma duodenale*, and 49 had *N. americanus* only. R.T.L.

(405ci) Significant differences in growth and in percentage development and lengths of *Ascaridia galli* were noticed in chicks from laying hens fed on various diets, in which soybean meal and corn gluten meal were the sources of protein. R.T.L.

(405cj) A study of oxygen consumption of fresh whole *Ascaridia lineata* in Barcroft-Warburg respirometers indicated that the enzymes used for oxygen uptake after semi-aerobic existence in the intestine of chickens, are essentially oxidases and that oxygen debts must be satisfied by O<sub>2</sub>. R.T.L.

(405cl) Of 128 rats from the city dump area of Bloomington, Illinois, 107 harboured *Cysticercus fasciolaris*. None showed *Trichinella* infection. R.T.L.

(405cn) Cysticerci of *Taenia taeniaeformis* could not be produced experimentally in hamsters, rabbits or white-footed mice. In white mice large numbers of cysticerci were produced but there were no visible symptoms. One or more cysticerci in the liver protected the host against a subsequent infection. There was no prenatal infection. R.T.L.

† Abstract of paper to be presented at the 24th Annual Meeting, American Society of Parasitologists, New York, December 27, 28 and 29, 1949.



## 405—Journal of Parasitology (cont.)

- †co. SCHILLER, E. L. & MORGAN, B. B., 1949.—“Gross parasitism in a young raccoon.” 35 (6, Sect. 2), Suppl. p. 38.
- †cp. READ, C. P., 1949.—“Fluctuation in the glycogen content of the cestode *Hymenolepis diminuta*.” 35 (6, Sect. 2), Suppl. p. 38.
- †cq. KATES, K. C. & GOLDBERG, A., 1949.—“Experimental tapeworm (*Moniezia expansa*) infections in young lambs.” 35 (6, Sect. 2), Suppl. p. 38.
- †cr. KAGAN, I. G., 1949.—“*Quickella* (family Succineidae), a new host for sporocysts of *Leucochloridium* (Trematoda: Brachylaemidae) in southeastern Michigan.” 35 (6, Sect. 2), Suppl. pp. 38–39.
- †cs. MEYER, M. C., 1949.—“The presence of *Metorchis conjunctus* in Maine.” 35 (6, Sect. 2), Suppl. p. 39.
- †ct. WALTON, A. C., 1949.—“Parasites of the Ranidae (Amphibia). XVIII.” 35 (6, Sect. 2), Suppl. p. 39.
- †cu. WALTON, A. C., 1949.—“Parasites of the Ranidae (Amphibia). XIX.” 35 (6, Sect. 2), Suppl. pp. 39–40.
- †cv. WALTON, A. C., 1949.—“Parasites of the Ranidae (Amphibia). XX.” 35 (6, Sect. 2), Suppl. p. 40.
- †cw. SCHILLER, E. L. & MORGAN, B. B., 1949.—“The incidence of parasites of *Rattus norvegicus* in Wisconsin.” 35 (6, Sect. 2), Suppl. p. 40.
- †cx. OLSEN, L. S., TODD, A. C. & HANSEN, M. F., 1949.—“A check list of parasites of horses in Kentucky.” 35 (6, Sect. 2), Suppl. pp. 40–41.
- †cy. RITCHIE, L. S., HUNTER, III, G. W., PAN, C., YOKOGAWA, M. & SZEWCZAK, J. T., 1949.—“Parasitological surveys in the Far East. VI. An epidemiological survey of Kyushu Island, Japan.” 35 (6, Sect. 2), Suppl. p. 41.
- †cz. HUNTER, III, G. W., RITCHIE, L. S., CHANG, I. C., ROLPH, Jr., W. D., MASON, H. C. & SZEWCZAK, J., 1949.—“Parasitological studies in the Far East. VII. An epidemiological survey in southern Korea.” 35 (6, Sect. 2), Suppl. p. 41.

(405co) A young raccoon in southern Wisconsin harboured approximately 341 *Oochoristica procyonis* and 105 *Physaloptera rara*. R.T.L.

(405cp) The glycogen level of *Hymenolepis diminuta* fluctuates at different times of the day. Starvation of the host reduces the glycogen to about 10% of that in controls. In rats fed only sodium lactate for 20 hours, the glycogen content of the worms was reduced to only 40% of that in control animals. This is presumed to indicate that lactate may be utilized by this cestode and that some aerobic metabolism occurs *in vivo*. R.T.L.

(405cq) Lambs heavily infected experimentally with *Moniezia expansa* showed no clinical symptoms or significant differences in weight. R.T.L.

(405cs) Three instances of *Metorchis conjunctus* infection are reported from Maine: one in a dog from Bangor, two in *Procyon lotor* from Swan Island. R.T.L.

(405cw) Of 80 rats collected from a city dump near Madison, Wisconsin, 20 were free from parasites. In the remaining 60 the helminth infections were: *Nippostrongylus muris* 62%, *Trichosomoides crassicauda* 25%, *Capillaria* sp. 5%, *Heterakis spumosa* 2.5%, *Hymenolepis nana* 37.5%, *H. diminuta* 1.2%, *Fibricola cratera* 2.5%. *Trichinella spiralis* was absent. R.T.L.

(405cx) Twenty named species of helminths belonging to 13 genera are listed as equine parasites in Kentucky. R.T.L.

(405cy) Of 2,073 individuals in Kyushu Island, Japan, 92.6% harboured helminths as follows: *Ascaris* 74.6%, whipworm 30.4%, hookworm 50.2%, *Enterobius* 25.7%, *Trichostrongylus* sp. 3.2%, *Clonorchis sinensis* 3.3%, *Metagonimus yokogawai* 4.9%. In

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the Kurume area, 72.9% of the population of the village of Nagatoishi and 60.2% of that of the village of Anrakuji had *Schistosoma japonicum* infection. At Kure village near Kagoshima, 19.4% of 108 individuals had microfilariae of *Wuchereria bancrofti*. R.T.L.

(405cz) Of stool specimens collected from inhabitants of south Korea, 94.2% contained helminth eggs. The species incidence was: *Ascaris* 82.4%, *Trichuris* 81.1%, hookworm 46.5%, *Trichostrongylus* sp. 3.6%, *Clonorchis sinensis* 7.1% (but at Taegu 41.1%), *Metagonimus yokogawai* 1.6%, *Enterobius* (by cellophane tape swab) 20.2%. In 334 American troops stationed in Korea the incidence was: helminths collectively 6.3%, *Ascaris* 1.5%, *Trichuris* 0.9%, hookworm 3.6%. Twenty-three blood films from the mainland of Korea were negative for filariae, but two out of 35 specimens from the island of Cheju-Do were positive for *Wuchereria malayi*. R.T.L.

#### 406—Journal of Pediatrics.

- a. CRAVEN, J., 1949.—“Ascariasis.” 35 (2), 252-253. [Discussion pp 253-254.]

#### 407—Journal of Pharmacology and Experimental Therapeutics.

- a. PETERS, L., WELCH, A. D. & HIGASHI, A., 1949.—“The antifilarial action of cyanine dyes. II. Selection of 1'-ethyl-3, 6-dimethyl-2-phenyl-4-pyrimido-2'-cyanine chloride ( 863) for further study as a potential antifilarial agent.” 96 (4, Pt. 1), 460-471.  
b. LUTTERMOSER, G. W., HASKINS, W. T. & BRADY, F. J., 1949.—“Therapeutic and toxic properties of oxygen versus sulfur bound trivalent antimony in organic antimonials.” 97 (3), 276-282.

(407a) The authors report upon the efficacy of 12 cyanine dyes against *Litomosoides carinii* in cotton-rats. Cures followed subcutaneous administration of these compounds but the intraperitoneal route was found to be the most favourable. Oral dosage resulted only in occasional cures, even in massive doses. One compound (No. 863) produced cures when six doses of 1.0 mg. per kg. body-weight were given intravenously at either 24-hour, 72-hour or weekly intervals. Single doses of 15 mg. per kg. were lethal. J.J.C.B.

(407b) No marked differences in toxicity and therapeutic effect were noted between oxygen-bound and sulphur-bound trivalent antimony in organic antimonials when administered to normal white mice and to mice infected with *Schistosoma mansoni*. J.J.C.B.

#### 408—Journal of the Royal Egyptian Medical Association.

- a. ABDINE, F., 1949.—“A case of extensive hydatid disease of the liver, associated with bilharzial hepato-splenomegalic syndrome and pulmonary and urinary bilharziasis.” 32 (8), 628-633.  
b. NOR ELDIN, G. & BAZ, I. I., 1949.—“Incidence of cestode infections among Egyptians.” 32 (9), 666-679.  
c. NEWSOME, J., 1949.—“A simple test of cure in *B. haematobium* infections.” 32 (10), 737-740.  
d. KHALIL, M., 1949.—“The national campaign for the treatment and control of bilharziasis from the scientific and economic aspects.” 32 (11/12), 817-856.  
e. NEWSOME, J., 1949.—“Cinemicrophotography of helminths and other semi-opaque subjects, using dark ground illumination.” 32 (11/12), 935-939.

(408b) In Egypt *Hymenolepis nana* is relatively commoner than *Taenia saginata*, while *T. solium* and *H. diminuta* are rare. No nervous symptoms were observed in the series of cases of *H. nana* studied. The age group incidence of *H. nana* for 1946 to 1948, which is tabulated, was 17.4% in those below 10 years of age, 9.8% in those between 10 and 15 years of age, and 1.7% in those over 15 years old. 371 cases of *T. saginata* infection, i.e. 2.3%, were also observed in the 16,064 persons examined. Only one case of *T. solium* is mentioned. R.T.L.



(408c) This technique consists in the examination of centrifuged and washed urine for hatched schistosome miracidia by means of a microscope in which the barrel is horizontally placed and the condenser replaced by a lens 3.5-4.0 cm. in diameter and about 3.0 cm. in focal length. The centrifuged and washed sediment is put into a glass cell of 5-c.c. capacity fixed on to the mechanical stage. Light from a microscope lamp is directed through the lens and on to the cell. By moving the substage, the image is focused on to a screen about six feet from the lens. The method enables the whole sediment of a large specimen of urine to be examined at one time. The finding of negative results on three successive days usually rules out the possibility of the intermittent passage of eggs in treated patients. The method was suggested by Blair & Alves' miracidiascope [and resembles that of the trichinoscope]. R.T.L.

(408d) Khalil reviews the work which has been accomplished mainly under Government auspices on the control of bilharziasis in Egypt. Treatment campaigns on a large scale were initiated in 1920. Preventive campaigns against the molluscan vectors, begun in 1929, were extended in succeeding years to cover wide areas in different parts of the country. Khalil is of the opinion that the present procedures should be reviewed in the light of the results hitherto obtained. R.T.L.

#### 409—Journal of the South African Veterinary Medical Association.

- a. VILJOEN, W. C. & BUHR, W. H. B., 1949.—"Ruptured aorta caused by *Spirocerca lupi* infestation." 20 (3), 148.

#### 410—Journal of Tropical Medicine and Hygiene.

- a. CHESTERMAN, C. C., 1949.—"Tropical diseases as an aftermath of war." 52 (8), 155-157.
- b. ANON., 1949.—"The tropical eosinophilic pneumopathy." 52 (11), 221-223.
- c. ROBERTS, J. I., 1949.—"Biological studies on Kenya school children." 52 (11), 225-237.

(410a) Chesterman, reporting on the papers on tropical diseases read at the British Medical Association meeting at Harrogate in July 1949, mentions that Professor Stefanopoulo discussed the symptoms, pathology and treatment of *Loa loa* infection. He had seen 500 cases in Paris among European personnel from the A.E.F. Hetrazan, 100 mgm. q.i.d. for 10 days a month repeated up to six times relieved the symptoms, and dead adults were sometimes observed under the epidermis. There were initial exacerbations with fever, erythema and pruritus, malarial relapse and focal symptoms but the microfilariae disappeared in 48 hours. R.T.L.

(410c) The stool examination of schoolchildren in Kenya shows a much higher incidence of intestinal infections among European boys than girls, and indicates a possible connection between such infections and mental and physical apathy. While there is little or no anaemia in children suffering from bilharzia such children are definitely retarded in their ability to perform mental tasks. Of 133 boys in a primary boarding school the helminth incidence was: *Schistosoma mansoni* in 12, *Ancylostoma* in 4, *Enterobius* in 24, *Trichuris* in 12, *Ascaris* in 2, *Strongyloides* in 3, *Trichostrongylus* in 1. Of 245 boys in a secondary boarding school *S. mansoni* occurred in 7, hookworm in 4, *Enterobius* in 9, *Trichuris* in 6, *Ascaris* in 1, *Strongyloides* in 1. Of 474 African schoolchildren *Taenia* ova occurred in 82, *Ascaris* in 4, hookworm in 17, *S. mansoni* in 5, *Enterobius* in 9, *Hymenolepis nana* in 6, *H. diminuta* in 1, *Strongyloides* in 2. It is observed that in a large number of children with eosinophilia no helminth eggs were found. R.T.L.

#### 411—Khirurgiya. Moscow.

- \*a. VOLINKIN, N. M., 1949.—[Complications in hydatid cyst of the liver.] No. 1, pp. 36-43. [In Russian.]

## 412—Klinicheskaya Meditsina.

- \*a. SERGIEVSKI, S. A., 1949.—[*Ascaris* in Meckel's diverticulum, causing intestinal obstruction.] 27 (8), 89. [In Russian.]

## 413—Kongelige Norske Videnskabers Selskabs Forhandlinger.

- a. ALLGÉN, C. A., 1949.—“Zur Kenntnis norwegischer Nematoden XV. Ueber einige freilebende litorale Nematoden aus dem Sognefjord.” Year 1948, 21 (15), 60–63.
- b. ALLGÉN, C. A., 1949.—“Zur Kenntnis norwegischer Nematoden XVI. Weitere freilebende Nematoden aus dem Sognefjord.” Year 1948, 21 (16), 64–67.
- c. ALLGÉN, C. A., 1949.—“Zur Kenntnis norwegischer Nematoden XVII. *Donsinema* und *Donsinemella*—zwei neue Nematodengattungen aus dem Trondheimsfjord.” Year 1948, 21 (27), 110–112.
- d. ALLGÉN, C. A., 1949.—“Zur Kenntnis norwegischer Nematoden XVIII. Ueber einige neue freilebende Nematoden aus dem Trondheimsfjord.” Year 1948, 21 (28), 113–116.
- e. ALLGÉN, C. A., 1949.—“Zur Kenntnis norwegischer Nematoden XIX. Ueber einige für den Trondheimsfjord neue freilebende Nematoden.” Year 1948, 21 (29), 117–120.
- f. ALLGÉN, C. A., 1949.—“Zur Kenntnis norwegischer Nematoden XX. Weitere für den Trondheimsfjord neue Nematoden.” Year 1948, 21 (30), 121–123.

(413a) Allgén gives brief notes on seven brackish-water forms of nematodes found in the Sogne fiord. Altogether 13 brackish-water forms and two fresh-water forms were found, none of which were new. E.M.S.

(413b) Allgén continues his account of the nematode fauna of Sogne fiord, giving brief notes on the remaining six brackish-water and two fresh-water species listed in his previous article [see preceding abstract]. No salt-water species were found. E.M.S.

(413c) *Donsinema longisetum* n.g., n.sp. and *Donsinemella camacolaimoides* n.g., n.sp. are described and differentiated. They were found in a sample of mud rich in nematodes from the shallow coastal zone of the island of Tautra in the Trondheim fiord. E.M.S.

(413d) Allgén describes the following new species found in mud from the island of Tautra in the Trondheim fiord: *Enoplolaimus parapropinquus* n.sp., *Pseudonchus longus* n.sp., and *Theristus donsi* n.sp. E.M.S.

(413e) Mud from the shallow coastal zone of the island of Tautra, north-east of Trondheim, was found to contain 36 species of known free-living nematodes. Notes are given on the following six species which have not previously been recorded from the Trondheim fiord: *Anticoma eberthi*, *Spirina pilosa*, *Monoposthia longiseti*, *Metachromadora vivipara*, *Oistolaimus suecicus* and *Richtersia collaris*. E.M.S.

(413f) Allgén gives notes on some additional species not previously recorded from the Trondheim fiord and now recorded from the island of Tautra, namely *Hypodontolaimus inaequalis*, *H. bütschlii*, *Euchromadora vulgaris*, *Odontophora lenuicaudata*, *Bathylaimus longisetosus*, *Theristus pellucidus*, *T. paravelox* and *T. normandicus* var. *gracillime-caudatus*. E.M.S.

## 414—Lancet.

- a. ANON., 1949.—“*Strongyloides* in ex-prisoners-of-war.” [Annotation.] Year 1949, 1 (6559), 831–832.
- b. FRIEDRICH, L., 1949.—“*Strongyloides* in ex-prisoners-of-war.” [Correspondence.] Year 1949, 1 (6563), 1024.
- c. HAWKING, F. & LAURIE, W., 1949.—“Action of hetrazan on filariasis and onchocerciasis.” Year 1949, 2 (6569), 146–147.
- d. MURGATROYD, F. & WOODRUFF, A. W., 1949.—“Loiasis treated with hetrazan (Banocide).” Year 1949, 2 (6569), 147–149.

(414b) Friedrich refers to a case reported previously by him [*Gastroenterologia*, 1949, 74 (3), 150–156] of *Strongyloides stercoralis* infection in Europe, and to the fact of its pathological importance. The patient was a woman who had never left Hungary, who had diarrhoea and violent pains referred to the gall-bladder. There was 52% eosinophilia.



and larvae were found in the faeces. Treatment with tetrachlorethylene was successful and the eosinophil count returned to normal. J.J.C.B.

(414c) Hawking & Laurie report on clinical trials with hetrazan under African conditions for filariasis (*Wuchereria bancrofti* and *Onchocerca volvulus*). The effect on the microfilariae of *W. bancrofti* was to remove them rapidly from the blood. They conclude from their observations that the drug does not act directly on the microfilariae but sensitizes them for phagocytosis by the reticulo-endothelial system. It had no effect on microfilariae in hydrocoeles, presumably because these were not in contact with large phagocytes. The action of hetrazan on microfilariae of *O. volvulus* is also positive, but is less rapid and permanent than with *W. bancrofti*. Apparently it does not kill the adult worms, for living females and males were seen in nodules excised after treatment. The drug is well tolerated by patients with *W. bancrofti* but violent allergic reactions were set up in patients with *O. volvulus*. J.J.C.B.

(414d) Seventeen European patients were treated in London for loiasis with hetrazan (Banocide). All were subject to Calabar swellings; microfilariae were found only in three, adult worms under the conjunctiva in two, and in three others dead adult worms appeared under the skin during treatment. All the patients were cured of symptoms and remained free for 1-14 months after treatment, which also caused the disappearance of microfilariae from the blood and the death of adult worms. Complement-fixation tests indicated that circulating filarial antibody disappeared from treated patients. J.J.C.B.

#### 415—Landbou. [Buitenzorg.

- a. VECHT, J. VAN DER, 1949.—“Biologische specialisatie bij galvormende wortelaaltjes; een verzoek om medewerking.” 21 (1/2), 61-65.

(415a) [This paper has also appeared in *Bergcultures*, 1949, 18 (2), 39, 41. For abstract see *Helm. Abs.*, 18, No. 160a.]

#### 416—Landwirtschaftliches Wochenblatt für Westfalen und Lippe.

- \*a. EHRLICH, C., 1949.—“Bekämpfung der Leberegelseuche.” 106, 696.  
\*b. KERSTING, 1949.—“Kartoffelnematoden im Feldbestand.” 106, 746.

#### 417—Landwirtschaftsblatt Weser-Ems.

- \*a. GOLDMANN, 1949.—“Schafkrankheiten infolge Bandwurmbefalls.” 96, 241.  
\*b. KELLER, 1949.—“Lungenwurmseuche bei Kälbern.” 96, 312-313.  
\*c. LÜHRS, 1949.—“Lungenwurmseuche — eine grosse Gefahr!” 96, 628-629.

#### 418—Lyon Médical.

- a. MULLER, B., RAOUL-DUVAL, P., BAFFIE, Y. & MARANDON, G., 1949.—“Grande éosinophilie sanguine par strongyloïdose intestinale. Echec des traitements employés. Leucose aiguë terminale.” 181 (22), 346-352.

(418a) In a case with a clinical history of considerable complexity and an eosinophilia which at one period reached 82%, a large number of *Lambli*a and a few *Strongyloides* larvae were obtained by duodenal sound. A culture of the faeces gave one male and two females typical of *Strongyloides stercoralis* which is rare in France. R.T.L.

#### 419—Market Growers Journal.

- a. WALTER, J. M. & KELSHEIMER, E. G., 1949.—“In-the-row application of soil fumigants.” 78 (5), 12, 33, 35-37; (6), 5, 37-39.

(419a) Walter & Kelsheimer have had good nematocidal results from applications of chloropicrin, D-D and ethylene dibromide in the row in which vegetables are to be sown or transplanted. This method of application protects the seedling or transplant

during the critical first few weeks of growth and is so much less costly per acre that it becomes practicable to treat the soil each time a crop is grown. Using tomatoes as a test crop they obtained yield increases up to 100 bushels per acre, worth up to \$300 per acre, against a cost of about \$10 for the chemical. Doubling the rate of application gave no better results. No treatment fully eradicated root-knot, and some plants died after chloropicrin. No general recommendations can yet be made, but an inexpensive modification of a tractor for experimental use is described.

B.G.P.

#### 420—Medical Journal of Australia.

- a. BEARUP, A. J., 1949.—“*Trichinella spiralis*: further search for infections of man in Australia.” 36th Year, 2 (19), 673–675.
- b. WOODLAND, L. J., 1949.—“Hydatid disease of vertebrae.” 36th Year, 2 (26), 904–910.

(420a) Examination of the muscle of the diaphragm in 202 persons in Sydney revealed one certain and one doubtful infection with *Trichinella*. The one certain case had old calcified cysts and had been born outside Australia.

E.M.S.

#### 421—Medical Woman's Journal.

- a. WOOD, F. D., 1949.—“A critical review of pinworm infection, its prevalence, diagnosis, and control.” 56 (2), 20–29, 64. [Spanish summary p. 28.]

(421a) From a review of the literature it is concluded that *Enterobius* eradication depends on the education and co-operation of the public. Among the unsolved problems are (i) an ovicidal agent, (ii) determination of the optimum degree of heat and dryness required to kill eggs in house dust *in situ*, (iii) the value of the infra-red heat lamp in killing eggs on bedding, furniture and clothing, (iv) seasonal variation in viability of eggs, (v) a more effective anthelmintic, and (vi) further studies on diagnosis by skin tests. Wood suggests the use of a nose and mouth mask during house-cleaning, bed-making and the handling of soiled laundry.

R.T.L.

#### 422—Medicamenta. Madrid.

- \*a. ESPINO, J. L., 1949.—“Un caso de obstrucción intestinal por *Ascaris lumbricoides*.” 7 (159), 108.

#### 423—Medicina y Cirugía. Bogotá.

- \*a. CAMPO POSADA, A., 1949.—“Ascariosis de las vías biliares.” 13 (9), 289–301.

#### 424—Medicina-Cirurgia-Farmacia. Rio de Janeiro.

- \*a. CAPRIGLIONE, L., 1949.—“Esquistosomose intestinal.” No. 153, pp. 3–23.
- \*b. RODRIGUES DA SILVA, J. & COSTA, P. D. DA, 1949.—“Os testes intradérmicos e outras reações biológicas no diagnóstico da esquistossomíase mansoni.” No. 161, pp. 497–506.

#### 425—Medicina Colonial. Madrid.

- a. PEÑA YÁÑEZ, J., 1949.—“El diagnóstico parasitológico de la schistosomiasis.” 14 (1), 33–43.
- b. FALCÓN TREJO, A., 1949.—“Nota clínica sobre triquinosis.” 14 (3), 277–278.
- c. APARICIO GARRIDO, J., 1949.—“Contribución al estudio de la epidemiología y la clínica de la oxiuriasis.” 14 (4), 334–349.
- d. PRIETO, A. & MULET, S., 1949.—“Estrongiloidiasis humana.” 14 (4), 375–391.

(425b) Clinical symptoms are recorded of a case in Badajoz which was diagnosed as an atypical form of trichinosis.

R.T.L.

(425c) The digestive, respiratory and nervous symptoms and associated allergic reactions (eczema, urticaria and rhinitis) observed in 50 cases of *Enterobius vermicularis* infection are discussed and tabulated.

R.T.L.



(425d) Prieto & Mulet summarize recent knowledge of the morphology and life-histories, geographical distribution, pathology, epidemiology, clinical manifestations and treatment of *Strongyloides stercoralis* in man.

R.T.L.

#### 426—Medicina. Revista Mexicana.

- a. ALBARRAN CARBAJAL, C. & CASIS SACRE, G., 1949.—“Denominación de las enfermedades parasitarias.” 29 (588), 377-379.

#### 427—Medizinische Klinik.

- a. WIGAND, R., 1949.—“Therapeutische Diarrhoen zur Beseitigung der Enterobiasis vermicularis. (Klinisch-parasitologische Beobachtungen XI.)” 44 (2), 51-52.  
 b. SCHÜFFNER, W., 1949.—“Kritische Beleuchtung der Oxyuriasis-Therapie und Winke für die praktische Ausführung.” 44 (11), 334-338.  
 c. EBERT, C., 1949.—“Oxyuren-Nachweis mittels Cellophanklebestreifen.” 44 (12), 375.  
 d. RAVELLI, A., 1949.—“Zum röntgenologischen Erscheinungsbild höherer tierischer Parasiten in der Lunge des Menschen.” 44 (19), 603-606.  
 e. PAPAYANNIS, T., 1949.—“Analekzem und Oxyuriasis.” 44 (30), 963-964.  
 f. STURSBURG, H. & SCHÜFFNER, W., 1949.—“Kritische Beleuchtung der Oxyuriasis-Therapie und Winke für die praktische Ausführung” (Schüffner: *Med. Klin.* 1949, 11: 334). 44 (40), 1292.

(427a) Wigand has devised a treatment for enterobiasis which takes advantage of the fact that the gravid female worm looses her hold on the intestinal mucous membrane and travels passively with the faecal stream. Patients of high hygienic standards or who can be supervised are given a “therapeutic diarrhoea” by administration of a suitable saline purge. The purging should be of short duration but the stool must be liquid, not merely soft. The treatment is repeated twice a week and a cure may be achieved after five weeks. All the members of a household must be treated.

E.M.S.

(427c) In a modification of Jacob's cellophane-strip method for the diagnosis of enterobiasis [for abstract see Helm. Abs., 11, No. 367a], Ebert applies a strip of adhesive cellophane tape over the anus and leaves it in position overnight. The female worms leaving the anus during the night rupture and their eggs are strewn on the adhesive surface of the cellophane. The strips can if necessary be stored up to a week. When they are examined under the low-power microscope, egg masses and often the remnants of the female worms are easily seen. Ebert examined 250 children by this method and found infection in 217 (87%). The anal swab technique used on the same children revealed only 120 positive cases (48%).

E.M.S.

(427e) Papayannis investigated the role of *Enterobius* in the aetiology of anal eczema and pruritus, which have increased in Germany to a considerable degree. Examination was by means of a test-tube introduced into the anus deeply enough to touch the faecal mass, and then withdrawn with a twisting movement in order to probe the anal folds. Material from the tip and from the sides of the tube was mounted separately in two drops of water on a microscope slide and covered with a single coverglass for examination. *Enterobius* eggs were found in 132 (61.3%) of 215 patients with anal eczema. Of these, 107 were treated with crystal violet dragees, adults receiving three dragees daily of 0.6 gm. each, children receiving 0.01 gm. daily for each year of their age, given three times daily in dragees of 0.02 gm. or, for infants, 0.002 gm. each. Dosing was for two periods of a week with a week's interval. Treatment had to be repeated in only five of these patients, 102 (93.3%) being worm-free after the first course.

E.M.S.

#### 428—Medycyna Weterynaryjna.

- a. HOVORKA, J., 1949.—“Nowa metoda ilościowego określania jajeczek pasożytów.” 5 (12), 899-902. [In Polish.]  
 b. KOWALEWSKA, H., 1949.—“Stosunek bakterij do torbieli bąblowców w wątrobie świń.” 5 (12), 921-923. [In Polish: English summary p. 923.]

(428a) [This paper has already appeared in Czech in *Cas. csl. Vet.*, 1949, 4 (16), 369-372. For abstract see above No. 355b.]

(428b) Kowalewska investigated the bacterial flora associated with hydatid cysts in 73 livers of pigs, and in 56 obtained cultures from the liver tissue surrounding the cysts. *Staphylococcus albus* was found in 52%, *Escherichia coli* in 19%, *Diplococcus* in 2.7%, *Bacillus subtilis* in 1.4% and *Erysipelothrix rhusiopathiae* in 1.4%. Bacteria were found in the hydatid fluid only in two cases, and in one case this proved to be *Escherichia coli*. C.R.

#### 429—Mimeograph Paper. Georgia Coastal Plain Experiment Station.

- a. ANON., 1949.—"Crop rotations for preventing root-knot damage to tobacco." No. 8, 2 pp. [Revised.]
- b. ANON., 1949.—"Tobacco root-knot control by soil fumigation." No. 66, 3 pp.

(429a) As crop rotation is the most practical method of controlling root-knot in tobacco a number of rotations suitable for different types of soil are given. Four-year rotations are best but three-year rotations are reasonably safe. A low soil nitrogen fertility must be maintained to ensure good leaf production, and if crops which add organic nitrogen to the soil are grown it must be at least two years before tobacco. Oats, harvested Spanish peanuts, and cotton are best for upland soils; maize may be grown on low wet land with millet or Sudan grass as alternatives; oats and rye are the only safe winter cover crops. The amount of infestation in the roots of the rotation crops does not indicate necessarily their effectiveness in reducing damage to tobacco. Crops which should be avoided on tobacco land are also mentioned. M.T.F.

(429b) Detailed methods are given for controlling root-knot in flue-cured tobacco, applying either D-D mixture or ethylene dibromide along the rows (4ft. apart) where the tobacco is to be planted. The D-D is used at 10 gal. per acre, and 40% ethylene dibromide at 7.5 gal. per acre, both injected 8–12 in. deep, either in one line along the row centre or in two lines 12 in. apart. Air temperature should be below 60°F. and the soil should be cool and moist and of good tilth. The treatment needs repeating each time a crop of tobacco is grown. In tobacco seed-beds it is still necessary to use cyanamide or uramon to control weeds, and the liquid fumigant should be applied in addition at 2 quarts per 100 sq. yd., leaving 60 days before sowing. B.G.P.

#### 430—Minerva Medica.

- a. MARENGO, U., 1949.—"Su due casi di cisti da echinococco del fegato nell'infanzia." Anno 40, 1 (15), 442–445.

#### 431—Nachrichtenblatt der Biologischen Zentralanstalt Braunschweig.

- a. GOFFART, H., 1949.—"Älchen an Porree und ihre Bedeutung für das Auftreten von Pflanzenkrankheiten." 1 (1), 11–12.
- b. GOFFART, H., 1949.—"Amerika und der Kartoffelnematode." 1 (1), 12.
- c. GOFFART, H., 1949.—"Zur Taxonomie und Entstehung der *Heterodera*-Arten." 1 (3), 38.

(431a) Goffart reports for the first time damage to a crop of leeks (*Allium porrum* L.) caused by the meadow nematode, *Pratylenchus pratensis*, in the region of Eckernförde, Germany. He discusses the various environmental factors affecting plant growth, such as soil conditions, water supply and spring or summer droughts, which determine whether the nematode attack will be seriously harmful or light in incidence. T.G.

(431c) Goffart describes the two types of *Heterodera* cyst, round and lemon-shaped. Some species may be distinguished by the length of the larvae and the morphology of the male sexual organs. The earlier idea that the host plants have a selective hatching effect on the larvae of specialized species of *Heterodera* is now replaced by the idea that each species has a definite host range, although the position of the beet nematode is not clear. Goffart considers that the species which are now specialized parasites of agricultural crops arose by mutations from species occurring on weeds, such as those on *Psamma*.



*arenaria* and *Agrostis stolonifera*. He thinks that *H. cruciferae* probably arose as a specialized form from the beet nematode. Nematode cysts, many of unknown origin, occur in nearly all soils.

M.T.F.

## 432—Nature. London.

- a. LUBRAN, M., 1949.—“Estimation of ‘hetrazan’ in body fluids.” [Correspondence.] 164 (4183), 1135.
- b. HEWITT, R., 1949.—“Mass therapy with ‘hetrazan’ as a control measure for Bancroftian filariasis on St. Croix, American Virgin Islands.” [Correspondence.] 164 (4183), 1135-1136.

(432b) Hewitt gives a preliminary report on a mass treatment campaign against filariasis bancrofti conducted in St. Croix, American Virgin Islands (population 12,000-14,000) with the object of reducing the microfilarial rate to levels subinfective for mosquitoes. A pre-treatment survey of 977 persons gave an infection rate of 15.9%. The dosage selected for island-wide therapy was 100-mgm. tablets of hetrazan for adults and 53-mgm. tablets for children over five years of age, administered three times daily for seven days. One year later 65 of the control group were re-examined: 82% were then negative, and there was a reduction of 98% in the total microfilaraemia. Of 471 persons examined in six communities 6.7% were positive, a reduction of 60% in the microfilarial rate as compared with the previous year. 88.7% of the positives showed microfilarial counts of 10 or less per 60 cu. mm. which is considered to be non-infective for mosquitoes, whereas in the preliminary survey the number of positives showing 10 or less per 60 cu. mm. was 27.1%. Systemic reactions were mild and are attributed to a release of protein from the dead worms.

R.T.L.

## 433—New York State Journal of Medicine.

- a. SCHWARTZ, J., 1949.—“Trichinosis complicating pregnancy.” 49 (12), 1453-1455.

## 434—New Zealand Medical Journal.

- a. DAVIS, T. R. A., 1949.—“Filariasis control in the Cook Islands.” 48 (266), 362-370.

(434a) Microfilarial surveys on two of the 11 inhabited islands of the Cook group revealed 102 positive for *Mf. bancrofti* out of 240 (over nine years of age) in Aitutaki, and somewhat lower percentages in Rarotonga. Clinical incidence varies from 60% to 90% of the population. In 1946 and 1947, 12% of hospital admissions were due to filariasis. Control measures are based principally on attacking the vector, *Aedes pseudoscutellaris*. The methods used in Rarotonga are described and consist of treatment of breeding places, treatment of resting places and general control measures. The effectiveness of these has yet to be gauged by a microfilarial survey but a general improvement of the villages is reported. In 1948 no naturally infected mosquitoes could be found.

J.J.C.B.

## 435—Northwest Science.

- a. McNEIL, C. W., 1949.—“Notes on the parasites of a white pelican (*Pelecanus erythrorhynchos*).” [Abstract of paper delivered before the Annual Meeting of the Northwest Scientific Association, December 27 and 28, 1948.] 23 (1), 11.

(435a) The stomach of a white pelican collected in Adams County, Washington, contained 387 nematodes, not yet identified. The small intestine contained 214 tape-worms of the genus *Hymenolepis*, and three species of trematodes, namely 134 *Bolbophorus confusus*, 3 *Phagicola longa*, and 10 *Ribeiroia ondatrae*, the last named being a new record for this host. The pelican appeared to be in good physical condition.

E.M.S.

#### 436—Notas Agronomicas. Estación Agrícola Experimental de Palmira, República de Colombia.

- a. ANON., 1949.—“Resumen del informe de labores experimentales de la Estación Agrícola Experimental de Palmira, Junio de 1948 a Junio de 1949.” 2 (5), 57-69.

(436a) In this résumé of experiments at the Palmira Agricultural Research Station there is brief mention of a disease of hops which appears to be due to *Heterodera marioni*. Work on the “rayadilla” disease of plantains, which may be associated with eelworm attack [see *Notas agron. Palmira*, 1948, 1 (3), 15-29], is continuing: B.G.P.

#### 437—Notiziario sulle Malattie delle Piante. Milan.

- a. SCARAMUZZI, G., 1949.—“Malattie e parassiti del tabacco segnalati in Italia.” Year 1949, No. 1, pp. 21-30.

(437a) Two nematodes are given in this list of pests and diseases of tobacco in Italy. *Heterodera marioni* is widespread and *Aphelenchus parietinus* Bastian var. *tubifer* forma *magnus* [= *Aphelenchoides parietinus*] is reported near Palermo. M.T.F.

#### 438—Nuova Veterinaria.

- a. ROMAGNOLI, A., 1949.—“Distomatosi pancreatica nel gatto.” 25 (5), 167-175.  
b. SALERNO, G., 1949.—“Sopra l'oncocercosi degli equidi.” 25 (8), 285-289.

(438a) An illustrated description is given of the pathological reactions of the pancreas to invasion by *Opisthorchis felineus* in a cat which was examined in the Veterinary Clinic of Pisa University. R.T.L.

(438b) Salerno examined the slaughter horses at the Bologna abattoir, finding only 10% with lameness or other symptoms of foot lesions. Post-mortem examination of 60 horses with symptoms revealed *Onchocerca reticulata* in 25%. Examination of all the tendons and ligaments of the horses slaughtered in a single day, regardless of symptoms, showed parasites in 10 out of 13 (84.61%). The parasites were found only in the proximal sesamoid ligament and were not found in the flexor tendons. E.M.S.

#### 439—Ohio State Medical Journal.

- a. LEACH, D. F. & ASHWORTH, H. B., 1949.—“Trichinosis—a preventable disease.” 45 (6), 576-578.

#### 440—Oikos. Copenhagen.

- a. RENKONEN, O., 1949.—“A controlled method for separating terrestrial nematodes.” 1 (1), 79-82.

(440a) [This is a shorter version of a paper in *Arch. Soc. zool. bot. Fenn.*, 1949, 2, 82-87. For abstract see above, No. 323a.]

#### 441—Ophthalmologica. Basle.

- a. BUSACCA, A., 1949.—“Sur la couleur verdâtre ou irisée du cysticerque intravitréen.” 117 (6), 347-348. [English & German summaries p. 348.]

#### 442—Peking Natural History Bulletin.

- a. FENG, L. C., LIN, C., TING, H. C. & HWANG, J. C., 1949.—“The action of areca nut (*Areca catechu*) and its extracts on tapeworms.” 17 (4), 233-240.

(442a) Experiments with extracts of areca nut *in vitro* show that a 1% solution in saline has a paralysing effect on the nerves, not on the muscles, of *Taenia solium*, *T. saginata* and *Hymenolepis nana*, whereas extracts of filix mas act primarily on the muscles. The scolex is completely paralysed by areca nut, loosens its hold and is



evacuated by the peristaltic contractions of the intestine induced by the drug. A bismuth iodide compound of the alkaloid of areca nut prepared by the authors proved very effective in removing *T. taeniaeformis* and *Dipylidium caninum* from a cat.

R.T.L.

#### 443—Philippine Journal of Animal Industry.

- a. REFUERZO, P. G. & ALBIS, F. S., 1949.—“*Cysticercus bovis* and *Cysticercus cellulosae* in animals with notes on human taeniasis in the Philippines.” Year 1947, 9 (2/4), 123-130.

(443a) A case of *Cysticercus bovis* in a country-bred ox, and two human cases of *Taenia saginata* and one of *T. solium* acquired in the Philippines are reported. Only six indigenous cases of *T. solium* and 57 of *T. saginata*, including the present ones, have so far been recorded although the occurrence of *C. cellulosae* in Philippine swine is not uncommon.

R.T.L.

#### 444—Philippine Medical World.

- \*a. STRANSKY, E., 1949.—“Hookworm anemia in the Philippines.” 4 (1), 12-15.

#### 445—Physiological Reviews.

- a. BUEDING, E., 1949.—“Metabolism of parasitic helminths.” 29 (3), 195-218.

(445a) Bueding reviews the literature dealing with the metabolism of parasitic helminths and the metabolic effects of anthelmintics. The wide variations in the biochemical characteristics of different species of helminth parasites, and the fundamental chemotherapeutic problems which arise therefrom, are briefly discussed.

W.P.R.

#### 446—Plant Disease Reporter.

- a. REYNOLDS, H. W., 1949.—“Relative degree of infection of American-Egyptian and upland cotton by three populations of the root-knot nematode.” 33 (8), 306-309.  
 b. WHEELER, W. H., 1949.—“Interceptions of the genus *Heterodera* in foreign soil.” 33 (12), 446.  
 c. TARJAN, A. C. & MOORE, J. E., 1949.—“Preliminary tests with seed treatments in prohibiting root-knot nematode infection of cucumber seedlings.” 33 (12), 447-450.  
 d. THOMAS, C. A., 1949.—“Observations on diseases of some special crops.” 33 (12), 453-454.

(446a) Reynolds has tested the infectivity of three populations of *Heterodera marioni* larvae (respectively from the cotton *Gossypium barbadense*, okra and alfalfa) to *G. barbadense* and *G. hirsutum*. Egg masses were dissected from the surface of galls and kept on moist cloth in petri dishes, the daily hatch being removed to a refrigerator. Thirty-five days after an inoculation of 400-500 larvae in 60 pots of three cotton seedlings each, held at 24°-29°C., the cotton roots were carefully washed and egg masses were counted. On both hosts the counts from the three populations were in the descending order: cotton, okra, alfalfa, the three possible differences between pairs being significant in each case. No galls from the alfalfa population were seen on *G. hirsutum*, and only one (in 30 plants) on *G. barbadense*.

B.G.P.

(446b) The U.S. Department of Agriculture has been examining soil from foreign countries to determine the frequency with which *Heterodera rostochiensis* was being accidentally imported. In one year from November 1948 it was found 15 times, in soils from England (9), Germany (2), Ireland (3), and Scotland (1). In addition, cysts were found and identified as *H. avenae* (1 case), *H. cacti* (1), *H. göttingiana* (3), *H. punctata* (2), *H. schachtii* (2), and an unknown species from France.

B.G.P.

(446c) Tarjan & Moore have treated cucumber seeds with 27 fungicides to see whether they conferred any protection against *Heterodera marioni* during the critical first few days of growth. Five seedlings from each treatment were removed on each of three days following germination and all nematodes counted by acid-fuchsin root staining.

Selecting the 19 more promising fungicides, with controls, the weights of plant tops after one month's growth revealed no significant differences. The four best fungicides were then used, with controls, in a  $5 \times 5$  Latin square; plant stand, stained larvae in roots of seedlings, number and weight of cucumbers harvested, and root-knot index based on five plants per plot at the end of the season, all failed to show significant differences. B.G.P.

(446d) Thomas reports that root-knot nematode (*Heterodera marioni*) was particularly troublesome on a crop of foxglove, *Digitalis purpurea*, at Beltsville. T.G.

#### 447—Plant Disease Reporter. Supplement.

- a. MILLER, P. R. & NANCE, N. W., 1949.—“Preliminary estimates of acreages of crop lands in the United States infested with some organisms causing plant diseases.” No. 185, pp. 207-252.
- b. ANON., 1949.—“Losses from plant diseases: effects on crop industries and on farm life.” No. 186, pp. 254-282.

(447a) Estimates of acreages infested with phytopathological organisms are given, based on 28 State returns, some States making a verbal comment but no numerical estimate: they are therefore both tentative and incomplete. The eight tables deal with five principal fungi, *Heterodera marioni*, other eelworms, and other organisms. Entries are grouped at first generally and then by crops. Of numerical estimates for *H. marioni*, Texas leads with 10 million acres, followed by Arkansas, Alabama and Oklahoma with between one million and 100,000. In the north it is mainly a glasshouse problem, and it appears to be unimportant in Kentucky. In Georgia a new peanut strain is spreading. Stem eelworm is reported on alfalfa in Nevada and on onion in New York, *H. schachtii* in Wyoming and *Pratylenchus* in Maryland and Virginia. B.G.P.

(447b) This survey mentions briefly the effects of damage by nematodes in several States of the U.S.A. In California peach growing has been revived by the discovery of nematode-resistant peach rootstocks. In Connecticut chrysanthemum nematodes have caused much damage. In Massachusetts it is believed that some phases of root-rot diseases of tobacco are due to meadow nematodes, but information is badly needed on the trouble. Grass seed nematode seriously affects seed production of chewings fescue, astoria bentgrass and seaside bentgrass in Oregon: the grass seed nematode galls are toxic and may be fatal if fed to sheep, cattle and horses. Root-knot nematode frequently causes decreased yield and quality of garden plants in Texas, where nematodes also cause serious losses of tobacco: D-D is used for control. M.T.F.

#### 448—Popular Bulletin. Washington Agricultural Experiment Stations.

- a. GOULD, C. J., 1949.—“Narcissus diseases in Washington.” No. 194, 27 pp.
- b. BLODGETT, E. C. & RICH, A. E., 1949.—“Potato tuber diseases, defects, and insect injuries in the Pacific Northwest.” No. 195, 116 pp.

(448a) In this popular bulletin dealing with diseases affecting narcissi in Washington State, Gould gives a short illustrated account of the characteristic symptoms caused by the stem or bulb eelworm, *Ditylenchus dipsaci*, and also indicates control measures. Warm-water treatment for four hours at  $110^{\circ}\text{F}$ . in water to which formaldehyde has been added in the proportion of one pint to 25 gallons should be given within three weeks from bulb-lifting. T.G.

(448b) Two nematodes causing injury to potato tubers are mentioned in this popular bulletin. They are *Heterodera marioni* and *Ditylenchus destructor*. The distribution, importance, symptoms and control of each disease are dealt with very briefly. J.B.G.

#### 449—Poultry. London.

- a. AXWORTHY, R., 1949.—“Gapes is a disease of chicks and young turkeys.” 105 (3469), 206.



## 450—Poultry Science.

- a. JAQUETTE, D. S. & WEHR, E. E., 1949.—“Nicotine-bentonite and phenothiazine mixture as treatment for roundworms of chickens.” 28 (6), 821–825.
- b. RIEDEL, B. B., BARBER, C. W. & HAYS, T. A. S., 1949.—“The anthelmintic activity of quaternary ammonium compounds in chickens infected with *Ascaridia galli*.” 28 (6), 830–833.

(450a) When 15 gm. of a 40% nicotine sulphate solution, 151 gm. of phenothiazine powder and 287 gm. of bentonite were added to 44 lb. of dry mash, the treated mash was effective in removing 99% of *Ascaridia* and *Heterakis* from naturally infected chickens. This combination of the two drugs saved time and did not affect the efficacy of either drug.

R.T.L.

(450b) When one part of a mixture consisting of 5% alkyl dimethyl benzyl ammonium chloride and 5% alkyl dimethyl dichlorobenzyl ammonium chloride was incorporated in 2,000 parts of the normal ration, the chickens fed with the mixture weighed more but harboured larger numbers of *Ascaridia galli* than the controls.

R.T.L.

## 451—Praxis. Berne.

- a. FANCONI, G. & MORF, H., 1949.—“Die Askariasis und ihre Behandlung, Gefahren der Kuren mit Quecksilberpräparaten.” 38 (41), 903–906.
- b. SCHAEPP, T., 1949.—“Hochgradige anaphylaktische Erscheinungen bei Infektion mit *Taenia cucumerina*.” 38 (42), 942.

(451a) Fanconi & Morf describe the symptoms produced by ascaris infection, but consider that much more harm may be done by treatment of children with mercury preparations, especially calomel. The reactions produced appear to be allergic in type and are of two types, an immediate reaction with acute exanthema which may easily be mistaken for various childhood diseases, especially chickenpox, and a late reaction which may develop several weeks or even months after the treatment and take the form of acrodynia. Differential diagnosis is by the demonstration of increased mercury output in the urine.

E.M.S.

(451b) Severe anaphylactic symptoms with convulsions, fever and urticaria in a four-year-old boy are ascribed to *Dipylidium caninum* infection acquired from a pet cat. The symptoms disappeared when the infection was removed.

E.M.S.

## 452—Prensa Médica Argentina.

- a. OVIEDO BUSTOS, J., 1949.—“Colecistitis parasitarias.” 36 (1), 33–48.
- b. LISTA, G. A., 1949.—“Progresos terapéuticos en medicina interna durante el año 1948. Parasitología.” 36 (12), 539–542.
- c. ALBORNOZ PLATA, A., 1949.—“El examen coprológico. Valorización estadística del método de concentración sobre el método directo.” 36 (21), 944–946.
- d. FINOCHIETTO, R. & LASALA, A. J., 1949.—“Quiste hidatídico del hígado abierto en las vías biliares. Técnica de la laparotomía transtorácica extrapleural, láteroanterior.” 36 (30), 1421–1428.

## 453—Proceedings of the Bulb Growers Short Course, Western Washington Experiment Station.

- a. EADE, G. W., 1949.—“Bulb inspection in Washington.” Year 1949, pp. 8–10.
- b. COURTNEY, W. D., 1949.—“Iris nematodes and their control.” Year 1949, pp. 25–31.
- c. HASTINGS, R. J., 1949.—“Sanitation vs. the bulb eelworm in field and shed.” Year 1949, pp. 32–44.

(453a) After briefly setting out the State quarantine regulations affecting narcissus growing and inspection of crops and harvested bulbs, Eade deals with the eelworm infestation of bulbous iris and the attendant problems of inspection.

T.G.

(453b) Courtney gives a brief history of the occurrence of eelworm in bulbous iris both in Europe and North America. He describes the symptoms caused by the nematode and discusses the means of spread of the disease. He shows that eelworm-diseased bulbs can be successfully treated in the warm-water bath for three hours at 110°F., the water containing one pint of formaldehyde to 25 gal. of water. Under Washington State conditions, such treatment is best given when the bulbs have been dug about mid-July and stored about five to six weeks, i.e. before late August. T.G.

(453c) Hastings discusses some of the measures to be applied to preserve the health of narcissus bulbs by preventing the introduction and dispersal of the bulb eelworm, and to restore health by the eradication of the eelworm. Headings under which the subject is discussed are as follows: introduction of the eelworm; field inspection for eelworm detection; means of dissemination; methods of eradication, including hot-water treatment of bulbs, and soil fumigation. T.G.

#### 454—Proceedings of the Hawaiian Academy of Science.

- a. ALICATA, J. E. & BURR, G. O., 1949.—"Biological effects of radiation on *Trichinella spiralis*." [Abstract of paper presented April 28, 1949.] 24th Annual Meeting, 1948-1949, pp. 8-9.

(454a) [A fuller account of this work appears in *Science*, 1949, 109 (2841), 595-596. For abstract see *Helm. Abs.*, 18, No. 270c.]

#### 455—Proceedings of the Society for Experimental Biology and Medicine.

- a. SOUTHAM, C. M., THOMSON, A. E. & BURCHENAL, J. H., 1949.—"False positive trichina precipitin reactions in neoplastic disease." 72 (2), 354-357.

#### 456—Puerto Rico Journal of Public Health and Tropical Medicine.

- a. HERNÁNDEZ MORALES, F., 1949.—"The treatment of *Taenia saginata* with atabrine." 25 (1), 78-81. [Also in Spanish pp. 82-86.]
- b. HERNÁNDEZ MORALES, F. & SANTIAGO STEVENSON, D., 1949.—"The treatment of *Taenia saginata* with a hexylresorcinol emulsion administered into the duodenum." 25 (1), 87-90. [Also in Spanish pp. 91-95.]
- c. MALDONADO, J. F., ACOSTA MATIENZO, J. & THILLET, C. J., 1949.—"Biological studies on the miracidium of *Schistosoma mansoni*. Part 2. Behavior of the unhatched miracidium in undiluted stools under diverse environmental conditions." 25 (2), 153-174. [Also in Spanish pp. 175-199.]
- d. MALDONADO, J. F. & VÉLEZ HERRERA, F., 1949.—"*Schistosoma mansoni* infection resulting from exposure to cercariae proceeding from single, naturally infected snails." 25 (2), 230-241. [Also in Spanish pp. 242-255.]
- e. HERNÁNDEZ MORALES, F., SANTIAGO STEVENSON, D., OLIVER GONZÁLEZ, J. & MALDONADO, J. F., 1949.—"An evaluation of the therapeutic effectiveness of fuadin and anthiomaline in the treatment of Manson's schistosomiasis." 25 (2), 256-260. [Also in Spanish pp. 261-266.]

(456a) Atebrin hydrochloride is effective in removing *Taenia saginata*. Of 24 cases treated, in 13 the scolex and in 11 the whole tapeworm were recovered. The proglottides were passed alive and were stained yellow. The total dosage was six to eight tablets, two tablets every five minutes with a glass of water containing 6 gm. of sodium bicarbonate, and water or fruit juice was freely allowed. The nausea or vomiting produced in some cases was not troublesome. Two to three hours later a dose of magnesium sulphate dissolved in a syrup of citric acid and water was administered. During the first hour after the purgative had been taken two or three evacuations occurred. R.T.L.

(456b) Hexylresorcinol in crystoid form having proved very unsatisfactory in the treatment of *Taenia saginata*, an emulsion of 1-gm. of the drug in its crystalline form, mixed with 30 c.c. of water and 1 gm. of acacia, was introduced directly into the duodenum. Of 28 patients so treated a cure followed in 26, of whom five had to be treated a second time. No purgatives or dietary restrictions are required. No toxic effects were encountered. R.T.L.



(456c) At tropical temperatures and under optimal conditions the maximum life span of *Schistosoma mansoni* eggs in undiluted stools, in which hatching does not occur normally, did not exceed eight days. The effect of dry weather was as harmful as direct sunlight and few eggs survived two days. Under laboratory conditions the average life was two to three days. Although viability and hatchability decreased after 24 hours the infectivity of the surviving miracidia remained unaltered. In pit latrines on an average the eggs survived approximately five days: 31.8% of the eggs were still alive at the end of seven days in one of the samples. Overflowing latrines facilitate the spread of schistosome infection.

R.T.L.

(456d) In a snail experimentally infected with *Schistosoma mansoni*, more than one miracidium can develop to maturity. Bisexual infections tend to predominate in the snail population of highly endemic foci. In unisexual infections of experimental animals male worms develop normally to the adult stage, but the females remain small and immature.

R.T.L.

(456e) Fouadin and anthiomaline had approximately the same parasitotropic action in schistosomiasis mansoni when injected intramuscularly every 48 hours, but the effectiveness of anthiomaline was increased when injected daily. A rather severe eosinophilia was evident at times during treatment with anthiomaline. Rectal biopsy is superior to faecal examination in the detection of infection.

R.T.L.

#### 457—Quarterly Bulletin. Indiana University Medical Center.

- \*a. HEADLEE, W. H., 1949.—“Some modern concepts of pinworm infection with data on the incidence among Indiana residents.” 11 (2), 26-31; (3), 52.

#### 458—Radiology.

- a. OOSTHUIZEN, S. F. & FAINSINGER, M. H., 1949.—“Hydatid disease.” 53 (2), 248-255. [Spanish summary p. 255.]

#### 459—Records of the South Australian Museum.

- a. JOHNSTON, T. H. & ANGEL, L. M., 1949.—“The life cycle of the trematode *Echinoparyphium ellisi*, from the black swan.” 9 (2), 247-254.

(459a) Eggs of *Echinoparyphium* sp. from the intestine of the black swan, *Chenopsis atrata*, were used to infect *Limnaea lessona*; three of the snails subsequently gave off *Cercaria ellisi*. The second intermediate hosts are various species of fresh-water molluscs, and tadpoles could be infected experimentally. The adults are described and are compared with *Echinoparyphium gizzardai* Verma, 1936, with which the species may prove to be synonymous.

E.M.S.

#### 460—Recueil de Médecine Vétérinaire.

- a. GUILHON, J., 1949.—“Recherches sur l'action strongyicide d'un dérivé soluble de la thiodiphénylamine.” 125 (6), 241-244.  
b. PERDRIX, J., 1949.—“Localisation peu fréquente de *Davainea proglottina* chez la poule. Tumeur parasitaire d'un caecum.” 125 (7), 314-315.

(460a) Guilhon cites experimental data in confirmation of his opinion that intravenous injections of “Stronglamine”, a soluble derivative of phenothiazine, for the treatment of equine strongylosis as recommended by Royer & Benoit [see Helm. Abs., 17, No. 358a], are ineffective.

R.T.L.

(460b) Microscopical examination of scrapings of the mucous surface of a nut-like tumour in the wall of the caecum of a fowl revealed numbers of *Davainea proglottina*.

R.T.L.

**461—Report on the Agricultural Department, Nigeria.**

- a. PICKLES, A., 1949.—“*Chrysops* investigations.” Year 1948, pp. 74-75.

(461a) Loiasis is a problem of some magnitude among the European and African personnel at the Oil Palm Research Station at Benin and in the agricultural communities of large parts of southern Nigeria. From investigations in 1948 it appears that the larvae of *Chrysops* breed mainly in saturated mud with a high content of organic matter and without free water at the surface. The presence or absence of shade, the nature of the vegetation surrounding the breeding site, and the reaction of the medium have little or no influence in determining the suitability of the site for the survival of *Chrysops* larvae. The results of routine collection of the vectors between May and November are tabulated. The numbers of *C. silacea* collected monthly between May and September were fairly uniform but the figures dropped markedly in October and November while those for *C. dimidiata* increased greatly in September, October and November. R.T.L.

**462—Report of the Department of Agriculture, Jamaica.**

- a. ANON., 1949.—“Internal parasites.” Year 1946-47, p. 24.

(462a) *Dictyocaulus viviparus* has been found in over 200 calves on one property at St. Mary, Jamaica, where this infection is widespread. *Haemonchus contortus* occurs all over the island and causes tremendous damage to young stock. *Fasciola hepatica* is very common in the swampy areas of St. Elizabeth, and renders the livers of most of the cattle in that area unfit for food. R.T.L.

**463—Report of the Department of Agriculture, Mauritius.**

- a. LESUR, E., 1949.—“Tobacco Research Station. Diseases and insect pests.” Year 1948, pp. 53-54.

(463a) In Mauritius *Heterodera marioni* is an important root disease of tobacco. D-D mixture is being tested for its control in the field, and the breeding of resistant varieties and strains is being carried out at the Tobacco Research Station. R.T.L.

**464—Report of the Minister for Agriculture. Dublin.**

- a. ANON., 1949.—“Veterinary Research Laboratory. Parasitology Section.” 17th (1947-48), pp. 83-84.

(464a) The Veterinary Research Laboratory of the Ministry of Agriculture, Ireland, states that although the supply of efficient anthelmintics is now plentiful, parasitic diseases of young stock are extremely prevalent. Of 2,405 samples of bovine faeces examined, 55% contained *Fasciola hepatica* eggs and 29% showed trichostrongyle eggs. Fluke eggs were found in nine equine samples. February and March gave the highest incidence of fluke eggs and July, August and September were the lowest. Strongyle or *Ascaris* eggs, or both, were found in 70% of equine samples. R.T.L.

**465—Res. Buenos Aires.**

- \*a. NASTRI, T. F. R., 1949.—“Parasitosis intestinal en el equino, con especial referencia a la esclerostomiasis y su tratamiento.” 17, 23289-23290.  
\*b. TAGLE, I., 1949.—“La equinococosis.” 17, 23951-23952.

**466—Research and Farming. North Carolina Agricultural Experiment Station.**

- a. NUSBAUM, C. J. & TODD, F. A., 1949.—“Nematodes, an unseen enemy.” [Progress Report of the North Carolina Agricultural Experiment Station], 8 (1), 13-14, 27.



## 467—Revista Brasileira de Biologia.

- a. MACHADO FILHO, D. A., 1949.—“Uma nova espécie do gênero *Oncicola* Travassos, 1916 (*Acanthocephala*).” 9 (4), 467–468.

(467a) *Oncicola micracantha* n.sp. in *Conepatus suffocans* from Rio Grande do Sul, Brazil, is described and illustrated. It is differentiated from *O. gigas* and *O. macrurae*.

R.T.L.

## 468—Revista Brasileira de Medicina.

- a. TOSCANO, R. & VASCONCELLOS, D., 1949.—“Incidência de helmintoses no hospital militar de Recife.” 6 (3), 177–179.  
 b. ANTUNES, I., 1949.—“Helmintos e helmintíases.” 6 (3), 186–191.  
 c. COELHO, B., MENEZES, H. & MAGALHÃES, Jr., A., 1949.—“Esquistossomíase mansoní experimental. Lesões hepáticas de cobaios infestados e submetidos a tratamento pelo tartarato de sódio e antimonila.” 6 (6), 378–383. [English summary p. 383.]

(468b) Antunes discusses and compares various methods of determining and indicating the degree of infection with *Ascaris*, *Trichuris* and hookworms, and shows the value of such indications in epidemiological surveys and in detecting carriers. E.M.S.

(468c) In guinea-pigs infected with *Schistosoma mansoni*, sodium antimony tartrate inhibits egg production. Worms killed by the drug provoke nodule formation with or without necrosis of the liver parenchyma. Necrotic nodules appear when the worms are in direct contact with the parenchyma through the breakdown of the walls of the blood vessels. Nodules without necrosis occur when the decomposition of the worms in a portal vein is associated with endophlebitis. Involution of the nodules occurs in a relatively short time, leaving only cicatricial nodules surrounded by newly formed blood vessels and bile ducts, and slight fibrous trabeculae which cause retraction of the parenchyma.

R.T.L.

## 469—Revista Chilena de Higiene y Medicina Preventiva.

- a. FAIGUENBAUM A., J., 1949.—“Estudios hematológicos en un grupo de anquilostomóscos de la Mina de Lirquén, Concepción.” Year 1948, 10 (4), 195–196.  
 b. NEGhme R., A., FAIGUENBAUM A., J., PILOTTI A., M. & SILVA CAMPOS, R., 1949.—“Algunos aspectos epidemiológicos de la hidatidosis humana en Chile.” Year 1948, 10 (4), 197–207.  
 c. NEGhme R., A., HOECKER S., G. & FELNER P., E., 1949.—“Incidencia de triquinosis en las ratas de basural y su posible relación con el grado de infestación de los cerdos criados en el mismo sitio.” Year 1948, 10 (4), 209–212. [English summary p. 211.]

(469a) Ancylostomiasis is endemic in some coal mines in Chile. In a survey carried out in the Mina Lirquén, 10% of the miners (114 individuals) were examined, and 68% were found to be infected with *Ancylostoma duodenale*. Blood examination showed a relatively high eosinophilia in 95% of those infected. A complete blood examination of 31 of the infected persons showed a distinct hypochromic anaemia, which was more marked in badly nourished persons. E.M.S.

(469b) While the incidence of hydatid in man in Chile is low it has spread throughout the country; 90% of the cases occur in persons from 11–59 years of age. Wilhelm in 1920 and Neghme in 1937 respectively found *Echinococcus granulosus* in 38% and 21.2% of dogs in the city of Santiago. Of seven dogs captured in the municipal abattoir three were infected, and also three out of thirteen taken from the suburban abattoir at Quinta Normal. Infection in sheep, cattle and pigs, in that order, is high throughout the country, varying between 1 and 850 per 1,000. Infection is also high in animals brought in from Argentina. R.T.L.

(469c) Neghme et al. examined 200 brown rats caught in a Santiago garbage dump where a large piggery was maintained. *Trichinella spiralis* was found in 8% of the rats and this is correlated with the high incidence (5.1%) recorded in 822 pigs reared in the same piggery. E.M.S.

**470—Revista Clínica Española.**

- a. OTERO GONZÁLEZ, L., 1949.—"Consideraciones a un caso de bilharziosis vesical en un niño español de Larache (Marruecos)." 32 (2), 108-114.
- b. ALFARO HUARTE, J. & RABADÁN MARINA, M., 1949.—"Hidatidosis renal y pararenal." 34 (3), 179-185. [English, French & German summaries p. 185.]
- c. LA VEGA, J. L. DE, 1949.—"Los síndromes de aparato digestivo de etiología ascaridiana." 34 (4), 219-229.

**471—Revista Cubana de Laboratorio Clínico.**

- a. KOURÍ, P., 1949.—"Diagnóstico, epidemiología y profilaxis de la fascioliasis hepática humana en Cuba. Síndrome eosinofílico febril." 3 (1), 12-32.
- b. SOTOLONGO, F., 1949.—"Diagnóstico del parasitismo por *Inermicapsifer cubensis* (Kouri-1938) Kouri 1940." 3 (4), 131-146.

(471b) Sotolongo tabulates considerable details from the published information of the 72 cases of *Inermicapsifer cubensis* reported from Cuba. These cases were located in the provinces of Pinar del Río (two cases), Habana (45 cases), Matanzas (14 cases) and Las Villas (nine cases); two cases were of unknown origin. Thirty-eight of the cases (56.7%) were in women and 29 (43.3%) in men. In five cases the sex was unrecorded. Sixty (97%) of the cases were in white people, two (3%) in halfbreeds (Mestizos), and for ten cases there was no information. The proglottides are differentially diagnosed from fly larvae, mucus concretions and Dipylidium segments. There are eleven photographs on one plate.

R.T.L.

**472—Revista Cubana de Pediatría.**

- a. ALEMÁN, E., 1949.—"Importancia del diagnóstico de la oxiuriasis." 21 (3), 144-154.

**473—Revista Española de las Enfermedades del Aparato Digestivo y de la Nutrición.**

- \*a. ALMEIDA PRADO, A. DE, 1949.—"Cirrose hepatoesplenomegálica por esquistosomiasis de Manson-Piraja da Silva." 8 (4), 489-498.

**474—Revista Ganadera Habana.**

- \*a. LÓPEZ PELLON, N., 1949.—"Ciclo evolutivo de un parásito que ha afectado al hombre." 9 (4), 15-16.

**475—Revista del Instituto Bacteriológico Malbrán.**

- a. PIROSKY, I., PIROSKY, R. R. DE & YALOV, S. DE, 1949.—"Fracciones de larva hidática que fijan el complemento." 14 (1), 287-298. [English summary pp. 297-298.]

(475a) Testing of hydatid fractions for their capacity to fix complement in sera of hydatid patients showed that their protein fraction was the most appropriate antigen. In 50 clinical cases, positive serum reactions were obtained in 77% using hydatid fluid, in 85% using protein fraction, in 84% with alcoholic extract and in 65% with ether-soluble, acetone-insoluble extract.

E.M.S.

**476—Revista del Instituto de Salubridad y Enfermedades Tropicales. Mexico.**

- a. MARTÍNEZ BÁEZ, M., 1949.—"Desintegración de las microfilarias de *Onchocerca volvulus* en la piel de los pacientes oncocercosos tratados con hetrazán." 10 (2), 95-99. [English summary p. 97.]
- b. MAZZOTTI, L., 1949.—"Observaciones de pacientes oncocercosos radicados fuera de las regiones endémicas." 10 (2), 179-182. [English summary p. 182.]
- c. MAZZOTTI, L., 1949.—"Parásitos intestinales en habitantes de la ciudad de México. Consideraciones sobre 36,545 muestras de materias fecales examinadas en el Laboratorio Central del Instituto Mexicano del Seguro Social." 10 (2), 183-202.
- d. QUINTANAR, E. & OSORIO, M. T., 1949.—"Sobre la presencia del *Enterobius vermicularis* en el apéndice." 10 (2), 215-217. [English summary p. 217.]



- e. MAZZOTTI, L. & OSORIO, M. T., 1949.—“Sobre la presencia de microfilarias de *Onchocerca volvulus* en la sangre y en la orina de pacientes afectados por esta filaria.” 10 (3), 269–275. [English summary p. 275.]
- f. NETTEL F., R., 1949.—“Observaciones sobre la cantidad de simúlidos colectados en un lugar de la zona oncocercótica de Chiapas, durante la temporada seca.” 10 (4), 345–353. [English summary p. 350.]
- g. CALERO M., C. & ORTIZ O., P., 1949.—“Triquinosis en Panamá.” 10 (4), 355–358. [English summary p. 358.]

(476a) Skin biopsy of several onchocerciasis patients showed normal microfilariae in the skin. After treatment with 0.006 gm. hetrazan daily for a week, biopsy showed dead and disintegrating microfilariae in the centre of foci of necrosis and cellular infiltration. E.M.S.

(476b) Twenty-eight onchocerciasis patients were observed for varying periods of time after their removal from endemic areas. A new onchocerca nodule was seen in only one case, two years after the patient had removed to Mexico City. E.M.S.

(476c) Mazzotti analyses the results of examination of 36,545 human faecal samples in Mexico City in 1945, 1946 and 1947. Helminth incidences were *Ascaris* 2,841 (7.8%), *Trichuris* 1,607 (4.4%), *Strongyloides stercoralis* 58 (0.2%), hookworms 140 (0.4%), *Taenia* 599 (1.6%), *Hymenolepis nana* 2,321 (6.4%). Thirty infections with *Hymenolepis diminuta* were detected, bringing the total for Mexico to 42. *Trichostrongylus* sp. eggs were found three times and *Gongylonema* sp. eggs once. Findings in 35 infected infants up to 12 months old are tabulated. The earliest case was an *Ascaris* infection in a baby two months old. E.M.S.

(476d) *Enterobius* was found in 91 (12%) out of 758 appendices of cadavers examined, and in 39 (33.6%) out of 116 appendices removed surgically. E.M.S.

(476e) In a small percentage of the Mexican cases of onchocerciasis which had been treated with hetrazan, the microfilariae of *Onchocerca volvulus* occurred in small numbers in the blood and urine. R.T.L.

(476f) From a study of the seasonal incidence of Simuliidae, Nettel F. concludes that in Chiapas a campaign against these vectors of onchocerciasis would prove most effective during the dry months between December and March. R.T.L.

(476g) No *Trichinella* infection was found either by the digestion or compression techniques in 351 rats collected from the city of Panama and its suburbs. R.T.L.

#### 477—Revista Kuba de Medicina Tropical y Parasitología.

- a. LEÓN, L. A., 1949.—“Nuevas consideraciones sobre la raillietinosis humana y nuevos aportes al conocimiento de la *Raillietina* (*R*) *quitensis*.” 5 (1/2), 1–4.
- b. LEÓN, L. A., 1949.—“El clima y las enfermedades tropicales del altiplano ecuatoriano.” 5 (1/2), 4–8.
- c. CALVO FONSECA, R., 1949.—“Reporte de diecinueve nuevos casos de parasitismo humano por *Inermicapifer cubensis* (Kouri, 1938) Kouri, 1940. Algunas consideraciones epidemiológicas.” 5 (1/2), 8–11.
- d. HOFFMANN, W. H. & GUERRA, A., 1949.—“*Distoma hepático* originando un absceso muscular.” 5 (1/2), 11–12.
- e. VARGAS, L., 1949.—“Los simúlidos en la transmisión de la oncocerciasis americana.” 5 (1/2), 12–19.
- f. BASNUEVO, J. G. & PIEDRA, J., 1949.—“Cloroquina y fascioliasis hepática.” 5 (3/4), 29–31. [English summary p. 31.]
- g. CALDERÓN RODRÍGUEZ, J., 1949.—“Algunos datos sobre antihelmínticos intestinales.” 5 (3/4), 41–47.
- h. AGUAYO, C. G., 1949.—“Precisa estudiar mejor nuestros moluscos de importancia médica.” 5 (3/4), 47–50.
- i. BASNUEVO, J. G., 1949.—“*Hymenolepis nana* y *diminuta*. Cloroquina y hexilresorcinol.” 5 (3/4), 58–59. [English summary p. 59.]

- j. BONILLA-NAAR, A., 1949.—"Tratamiento de la teniasis (*T. saginata*, *T. solium* e *Hymenolepis nana*) con el 'Acranil' y el clorhidrato de quinacrina. Neghme, Culbertson y Niño, los iniciadores." 5 (5/6), 80-81.
- k. BASNUEVO, J. G. & BLANCO RABASSA, E., 1949.—"Hymenolepiasis nana y cloroquina." 5 (5/6), 82. [English summary p. 82.]
- l. MAZZOTTI, L., 1949.—"Aplicación de la intradermoreacción en casos humanos de infección por *Fasciola hepática*." 5 (5/6), 82-83.
- m. BASNUEVO, J. G. & BARRETO, A. M., 1949.—"Cloroquina y clonorchiasis." 5 (5/6), 84. [English summary p. 84.]
- n. BUTTS, D. C. A., 1949.—"La infección filárica en Costa Rica. Contribución del Hospital de la Compañía Bananera de Costa Rica en Limón." 5 (5/6), 91-93.
- o. KOURI, P. & BASNUEVO, J. G., 1949.—"Examen parasitológico seriado de heces fecales." 5 (5/6), 93.
- p. BASNUEVO, J. G., 1949.—"Cloroquina y clonorchiasis (II)." 5 (7/8), 105-110. [English summary pp. 109-110.]
- q. CAMPO POSADA, A., 1949.—"Ascariidiosis de las vías biliares." 5 (7/8), 113-117.
- r. BASNUEVO, J. G., 1949.—"Terapéutica antiparasitaria." 5 (7/8), 118-120.

(477a) Human Raillietina infection is relatively common in Ecuador: León has seen over 100 cases, and a survey of 866 rural schoolchildren in the endemic area of Pichincha showed infection in 27 (3.11%). Two types exist, one exemplified by *R. equatoriensis* whose eggs appear in the faeces, the other typified by *R. quitensis* which is diagnosed by finding in the faeces proglottides containing numerous ovigerous capsules. León gives a description of *R. quitensis*, which he has observed in 18 cases. E.M.S.

(477b) León distinguishes five groups of diseases in upland Ecuador, according to their epidemiology in relation to climatic factors. Ascaris, Trichuris, Taenia and Hymenolepis infections are endemic throughout the Sierra (group II), Strongyloides and Raillietina infections are confined to certain valleys (group IV), and filarial, hydatid and Dipylidium infections occur sporadically (group V). E.M.S.

(477c) Calvo Fonseca reports 19 new cases of *Inermicapsifer cubensis* infection, 12 of them in the Province of Matanzas and five in Cabezas, which appears to be a focus of the infection. Fifteen cases were in children 9 years old and under, and all were in white people. Considerable natural immunity to the parasite is indicated by spontaneous expulsion in some cases, and after simple laxatives in others. E.M.S.

(477d) [This article is reprinted from *Rev. Med. Cir. Habana*, 1923, 28 (16), 558-560.]

(477e) [This article has also appeared in *Medicina, Rev. mex.*, 1948, 28 (555), 177-190. For abstract see *Helm. Abs.*, 17, No. 201d.]

(477f) Treatment of three human cases of fascioliasis hepatica with chloroquine (Tanakan) tablets produced clinical improvement only. Intramuscular injection of emetine hydrochloride effected disappearance of the parasite's eggs from bile and faeces. E.M.S.

(477g) [This article has also appeared in *Medicina, Rev. mex.*, 1948, 28 (569), 507-518. For abstract see *Helm. Abs.*, 17, Part 5.]

(477i) A patient with *Hymenolepis nana* and *H. diminuta* as a mixed infection, was treated with Santokin, a proprietary mixture of hexylresorcinol and oil of chenopodium, which removed the *H. diminuta*. *H. nana* disappeared after the administration of chloroquine, 8.0 gm. in 13 days. E.M.S.

(477k) Of two cases of *Hymenolepis nana* infection treated with various doses of chloroquine according to age, two were cured. E.M.S.

(477l) [This article is reprinted from *Rev. Inst. Salub. Enferm. trop.*, 1948, 9 (4), 257-261. For abstract see *Helm. Abs.*, 17, Part 5.]



(477m) Of two cases of clonorchiasis given 13 gm. chloroquine in 23 days, only one was cured.  
E.M.S.

(477n) [This article is reprinted from *Rev. méd. Costa Rica*, 1948, 8 (169), 103-108. For abstract see *Helm. Abs.*, 17, Part 5.]

(477o) Kourí & Basnuevo have found in hospital work that serial examination of faecal samples from each patient gives much greater accuracy of diagnosis. In order to achieve a similar efficiency for clinic patients without imposing an unnecessary burden on patients or clinic, they have established the practice of giving each patient three 0.25-gm. tablets of carmine. The patient is then required to bring in promptly for examination each stool specimen which shows the carmine stain: this usually produces 3-4 stool specimens within 2-3 days.  
E.M.S.

(477p) The eggs of *Clonorchis sinensis* completely disappeared from the faeces and bile in two out of five cases treated with chloroquine diphosphate. Four 0.25-gm. tablets per day were administered for three days and two tablets per day for 20 days: the total dosage was 13 gm.  
R.T.L.

#### 478—Revista de Medicina Veterinaria. Buenos Aires.

- a. ROVEDA, R. J. & MAZZINI, C. A., 1949.—“La fenotiazina en el *Myocastor coypus* (quiyá).” 31, 15-26.

(478a) Roveda & Mazzini recommend the use of phenothiazine against roundworm parasites of the swamp beaver, *Myocastor coypus*. The effective dose is 1 gm. daily for two or three days, repeated two months later but using 2-3 gm. daily. The most frequent parasites encountered in this host are species of *Trichuris* and *Strongyloides*, although *Longistriata maldonadoi* is also found. The number of eggs found in stools after treatment is much reduced and they may be completely absent.  
P.A.C.

#### 479—Revista de Medicina Veterinaria y Parasitología. Caracas.

- a. VOGELSSANG, E. G. & POTENZA, L., 1949.—“*Onchocerca volvulus* (Leuckart, 1893) Railliet et Henry, 1920. Su presencia en Venezuela.” 8 (1/4), 3-15. [English & German summaries p. 12.]  
b. VOGELSSANG, E. G. & HERRERA, L. A., 1949.—“*Echinococcus granulosus* (Batch, 1786) en Venezuela.” 8 (1/4), 37-42.  
c. CABALLERO y C., E. & VOGELSSANG, E. G., 1949.—“Fauna helmintológica venezolana. II. Algunos trematodos de aves y mamíferos.” 8 (1/4), 43-65.  
d. VOGELSSANG, E. G. & ESPÍN, J., 1949.—“Dos nuevos huéspedes para *Capillaria hepatica* (Bancroft, 1893) Travassos 1915; nutria (*Myopotamus coypus*) y el ratón mochilero (*Akodon venezuelensis*).” 8 (1/4), 73-78. [English & German summaries p. 78.]  
e. VOGELSSANG, E. G. & GALLO, P., 1949.—“Contribución al estudio de la parasitología animal en Venezuela. XVII.—Dos nuevos *Sparganum*.” 8 (1/4), 79-82. [English summary p. 82.]

(479a) That *Onchocerca volvulus* is the species responsible for the production of onchocerciasis in Venezuela has now been determined for the first time. This species is also responsible for onchocerciasis in Mexico, Guatemala and the Cameroons. After a detailed examination of specimens from these different countries, Vogelsang & Potenza consider *O. caecutiens* to be a synonym of *O. volvulus*. The infected region, which is near the northwestern frontier of Venezuela, encloses the towns Caripe, Guana-Guana, Aragua de Maturín, San Antonio, San Francisco, Padron and Guácharo, State of Monagas. *O. lienalis* and *Setaria cervi* are reported from *Bos taurus* in the neighbourhood of Guana-Guana in the same region.  
R.T.L.

(479b) Although articles on hydatid disease have appeared in Venezuelan medical journals, the first authentic case was reported in 1938 from Barquisimeto. No cysts have been found in many thousands of cattle examined by Vogelsang & Herrera in the country's abattoirs. Infection has been seen by various observers in pigs from the States of Cojedo,

Portuguesa and Falcón, from La Goajira, and from the neighbourhood of Valle de la Pascua, State of Guárico. Infected dogs have been found in Barquisimeto and the Valle de la Pascua. A dromedary which was attached to an itinerant circus had cysts in the lungs and spleen; the infection had probably been acquired in another country. E.M.S.

(479c) Concise and illustrated descriptions are given of *Parastrigea cincta* and *Tylodelphys elongata* from *Jabiru mycteria*, of *Apatemon gracilis* from *Cathartes urubu*, and of *Duboisella proloba*, *Rhopalias coronatus* and *R. horridus* from *Didelphis marsupialis*, collected in Venezuela. R.T.L.

(479d) To the known hosts of *Capillaria hepatica* which are listed, *Myocaster coypus* from the Argentine and *Akodon venezuelensis* from Venezuela are now added. R.T.L.

(479e) *Sparganum fernandezi* n.sp. collected at Coro is described from *Capra hircus*, and *Sparganum ameivai* n.sp. from *Ameiva ameiva* at San Jacinto, Maracay, in Venezuela. R.T.L.

#### 480—Revista Paulista de Medicina.

- a. MEIRA, J. A. & SOARES JUNIOR, J. C. M., 1949.—“A biópsia retal no diagnóstico da esquistossomíase mansoni.” [Abstract.] 34 (3), 205. [Discussion p. 205.]
- b. PONTES, J. F. & AMARAL, A. D. F. do, 1949.—“Nota sobre as parasitoses intestinais no Serviço de Gastroenterologia do Hospital das Clínicas.” [Abstract.] 34 (3), 205. [Discussion pp. 205–206.]
- c. COUTINHO, J. O., 1949.—“Contribuição para o estudo do hospedador intermediário do *Schistosoma mansoni* em Santos, São Paulo.” [Abstract.] 34 (3), 206–207. [Discussion p. 207.]
- d. AMARAL, D. F. do, 1949.—“Sobre a pesquisa de ovos de *S. mansoni*.” [Abstract.] 34 (3), 207. [Discussion pp. 207–208.]
- e. COUTINHO, J. O. & PESSÓA, S. B., 1949.—“Sobre um foco autóctone de esquistossomose mansônica em Jacarézinho (Norte do Paraná—Brasil).” [Abstract.] 34 (5), 345–346. [Discussion p. 346.]
- f. REIS, J. B. dos, BEI, A. & DINIZ, H. B., 1949.—“Dificuldades no diagnóstico diferencial entre a cisticercose encefálica e a neurolues.” [Abstract.] 34 (5), 347.
- g. PUPO, P. P. & PIMENTA, A. M., 1949.—“Cisticercose do IV ventrículo. Considerações anátomo-clínicas e sobre a terapêutica cirúrgica.” [Abstract.] 34 (5), 347–348. [Discussion pp. 348–349.]
- h. COUTINHO, J. O., 1949.—“Notas sobre e eliminação de ovos de *Schistosoma mansoni* pelas fezes de cobaias e coelhos, experimentalmente infestados.” [Abstract.] 35 (1), 57. [Discussion pp. 57–58.]
- i. MEIRA, J. A. & GALVÃO, A. A., 1949.—“Considerações sobre a fase larvária da infecção ancilostomótica. Sobre dois casos clínicos de ancilostomíase aguda.” [Abstract.] 35 (2), 134–135. [Discussion p. 135.]

(480a) [This article has appeared in full in *Arq. Hig. Saud. Publ., S. Paulo*, 1948, 2 (1), 45–90. For abstract see *Helm. Abs.*, 17, Part 5.]

(480e) [This article has appeared in full in *Hosp., Rio de J.*, 1949, 35 (4), 531–542. For abstract see *Helm. Abs.*, 18, No. 203d.]

(480f) [This article appears in full in *Arq. Neuro-Psiq., S. Paulo*, 1949, 7 (2), 156–164.]

(480g) [This article appears in full in *Arq. Neuro-Psiq., S. Paulo*, 1949, 7 (3), 274–291.]

#### 481—Revista do Serviço Especial de Saúde Pública. Rio de Janeiro.

- a. RODRIGUES DA SILVA, J., 1949.—“Estudo clínico da esquistossomose mansoni (doença de Manson-Pirajá da Silva).” 3 (1), 1–438.

(481a) In a thesis presented to the medical clinic of the National Faculty of Medicine, Rodrigues da Silva gives a very full account of the clinical aspects of schistosomiasis mansoni as it occurs in Brazil. His chapter headings cover: Human schistosomiasis



(historical summary and geographical distribution); Schistosomiasis mansonii in Brazil (incidence, importance and origin); Aetiological study; Pathogenesis; Pathology; Symptomatology and clinical forms; Diagnostic methods; Prognosis; Prophylaxis and therapeutics. There is a bibliography of 692 references. There is no index nor list of contents.

E.M.S.

#### 482—Revue Agricole de l'Afrique du Nord.

\*a. MAGNEVILLE, A., 1949.—“Les ‘plaies d'été des équidés’.” 47, 119-120.

\*b. MAUPOUME, R., 1949.—“La lutte contre les strongyloses ovines.” 47, 402-403.

#### 483—Revue Médicale de Nancy.

a. BONNET, MABILLE & MEUNIER, 1949.—“Une observation de kystes hydatiques du rein droit et du foie.” 74, 112-116.

b. FLORENTIN, P., HAUDIDIER, P. & RAUBER, G., 1949.—“Un cas d'ascaridiose intra-hépatique à foyers multiples.” 74, 224-228.

#### 484—Revue Médico-Chirurgicale des Maladies du Foie, Pancréas-Rate.

\*a. GRENAUD, M., 1949.—“Un cas d'échinococcose alvéolaire du foie à forme ascitique.” 24 (7/8), 5-9.

#### 485—Riforma Medica.

a. SCHIROSA, G., 1949.—“Su di un caso di cisti di echinococco del polmone diagnosticato e curato per via broncoscopica.” 63 (27), 635-638.

b. SCHIROSA, G., 1949.—“Il trattamento delle cisti di echinococco del polmone con la pneumoparacentesi.” 63 (34), 801-807.

#### 486—Rivista di Parassitologia.

a. RICCI, M., 1949.—“*Trichuroides chiropteri*, n.gen., n.sp., parassita della vescica urinaria di *M. myotis* (Bork.). (Nematoda: Trichuroidea).” 10 (4), 181-186. [English & French summaries p. 186.]

b. RICCI, M., 1949.—“Nuove capillarie (Capillariinae, Nematoda) in chiropteri italiani.” 10 (4), 187-196. [English & French summaries pp. 195-196.]

c. PELLEGRINI, D., 1949.—“Il *Cysticercus dromedarii* (Pellegrini, 1945) del cammello e del bovino e relativa *Taenia hyaenea* (Baer, 1927) della iena.” 10 (4), 237-243. [English & French summaries p. 243.]

(486a) *Trichuroides chiropteri* n.g., n.sp., from the bladder of *Myotis myotis*, is described and figured. No parasite of the bladder had hitherto been reported in bats. In *Trichuroides* the body is 3.0-3.5 mm. in length and divided into two portions as in *Trichuris*. These two portions are of equal length. The eggs,  $48-54\mu \times 24-26\mu$ , are embryonated. Ricci places the new genus in the family Trichosomoididae. R.T.L.

(486b) From 165 bats belonging to nine different species, Ricci has collected five species of *Capillaria*, namely *C. euryali* n.sp. and *C. romana* n.sp. from *Rhinolophus euryale*, *C. rara* n.sp. from *R. ferrum-equinum*, *C. italica* n.sp. from *Myotis nattereri* and *C. dubia* n.sp. from *M. daubentonii*. R.T.L.

(486c) Pellegrini summarizes recently published information on “*Cysticercus dromedarii*” which occurs frequently in camels and cattle and occasionally in the goat and the small antelope *Cephalophus grimmii abyssinicus* in Somaliland. The strobila and hooks of the mature worm *Taenia hyaenea* Baer are figured. R.T.L.

#### 487—Sad i Ogorod. Moscow.

a. DANILOV, V. P., 1949.—[Stem eelworm in strawberries.] Year 1949, No. 8, pp. 38-39. [In Russian.]

(487a) Danilov gives a short account of the effects of stem eelworm [*Ditylenchus dipsaci*] in strawberries in the Krasnodar region of Russia. The parasite was first found in 1932 although Kiryanova states that it was first noticed on onion heads in 1924. It has

been shown to attack potatoes, tobacco, tomatoes, cotton, pepper, onions, lucerne, clover, oats, wheat, millet, barley, rye, beet, hemp, strawberries and chicory. The symptoms of leaf crinkling and thickened leaf petioles are described and Danilov states that the fruit from infested plants is softer and less in quantity than from normal plants. The disease is said to be spread by infected nursery stock and by ripe fruit. Control has been effected by warm-water treatment for four hours at 42°C. to 43°C., giving 100% kill of nematodes but killing 40-60% of the treated plants as well.

J.B.G.

#### 488—Schweizerische Medizinische Wochenschrift.

- a. WALLERTSHAUSER, M., 1949.—“20 Fälle von eosinophilem Lungeninfiltrat in einer Kavallerie-Rekrutenschule.” 79 (42), 1002-1004.

(488a) In twenty recruits in a cavalry school, large fugitive pulmonary infiltrations of the lungs were associated with eosinophilia. *Ascaris ova* were present in nine cases. Cutaneous reactions occurred with *Ascaris* extract in two out of three cases tested when infiltrations were observed, and in ten out of 17 tested after these had cleared; five were doubtful. Unwashed vegetables were possibly the source of the *Ascaris* infections. R.T.L.

#### 489—Schweizerische Zeitschrift für Pathologie und Bakteriologie.

- a. KENT, N. & MACHEBOEUF, M., 1949.—“Recherches sur les protéines du cestode *Moniezia expansa*. II.—Etude de la digestibilité des diverses fractions protéiques par la trypsine.” 12 (1), 81-84. [English, German & Italian summaries p. 84.]

(489a) Cerebrosides and bile acids linked to certain proteins in cestodes appear to enhance their hydrolysis by trypsin, but moniezine and baerine, two protein fractions containing glycogen, show marked resistance to trypsin. Only 37% of their amino-acid nitrogen can be titrated in the hydrolysate by Van Slyke's method.

R.T.L.

#### 490—Science.

- a. HAHN, P. F. & OFFUTT, E. P., 1949.—“A method for the study of blood loss in hookworm infestation.” 110 (2870), 711-713.

(490a) Hahn & Offutt describe a technique for estimating the blood loss due to hookworm, or indeed to haemorrhage of any kind. The iron reserves of two dogs were depleted by controlled haemorrhage to an anaemic haemoglobin level which was maintained for several months. Each dog was then exposed to about 2,000 infective larvae of *Ancylostoma caninum*. Four weeks later each received by vein 100 ml. of blood from a donor dog, which had been fed radio-active iron whilst anaemic so that its red cells were tagged and could be traced. After some days the haematocrit reached a steady value, indicating a constant red cell mass, i.e. the hookworm blood loss was just balanced by regeneration of new red cells. The authors show that at the time when the haemorrhagic loss reaches, in aggregate, the original red cell mass the concentration of tagged cells will fall to  $1/e = 37\%$  of its original concentration. This occurred in the two dogs in 16 and 27 days, the volume of blood so lost being estimated at one litre [an average daily loss due to hookworm of 62 and 37 ml.]. Ova were counted frequently but a reliable estimate of worm burden was not felt possible, thus precluding any estimate of average daily loss per worm. The authors admit that it might be more accurate to measure the radio-active iron excreted, and that in studies on human ancylostomiasis the tagged iron could be fed to the infected subject rather than to a donor.

B.G.P.

#### 491—Scottish Farmer.

- a. ANON., 1949.—“Potato crops inspection. New provision against potato root eelworm.” 57 (2953), 914.  
b. ANON., 1949.—“Potato eelworm. Explanation of inspection conditions.” 57 (2954), 944.

(491a) The potato crops inspection scheme of the Department of Agriculture for Scotland for the growing season 1950 has not yet been published but it is announced that



the present scheme, under which growing crops should be "free from visible infestation with potato root eelworm" to qualify for the Department's certificates [see below, No. 521], will be amended to include a new requirement that crops on land on which potatoes have been grown more often than once in the previous seven years will not be accepted for inspection.

R.T.L.

(491b) The National Farmers' Union of Scotland points out that the new restrictions under the proposed potato crops inspection scheme of the Department of Agriculture for Scotland for 1950 do not mean that an interval of seven years must necessarily elapse between each potato crop. Potatoes could be grown at intervals of four years in the future and the new requirements still be adhered to. In the case of old lea land potato crops could be grown in two successive seasons, but a further crop would not be eligible until the seventh year after the harvesting of the second crop.

R.T.L.

#### 492—Sinensia.

- a. YIN, W. -Y. & SPROSTON, N. G., 1949.—"Studies on the monogenetic trematodes of China : parts 1-5." Year 1948, 19 (1/6), 57-63, 63-69, 69-76, 76-82, 82-85. [Chinese summary.]
- b. WU, H. W., 1949.—"A note on two parasitic nematodes of fishes." 20 (1/6), 51-57. [Chinese summary.]
- c. SPROSTON, N. G., 1949.—"A preliminary survey of the plankton of the Chu-San region, with a review of the relevant literature." 20 (1/6), 58-161. [Chinese summary.]

(492a) In Part 1 of this article, six subspecies of *Gyrodactylus elegans* are recognized and their differences tabulated. They are *G. e. elegans*, *G. e. muelleri* nom.nov. and *G. e. salmonis* nom.nov. for Mueller's varieties "A" and "B" respectively, *G. e. japonicus* (Kikuchi) n.comb., *G. e. yamagutii* n.subsp. for *G. elegans* Yamaguti, 1940, and *G. e. sinicus* n.subsp., a new form from goldfish which is here described. Part 2 deals with the taxonomic status of some common species of *Dactylogyrus* which parasitize goldfish. *D. crassus* and *D. vastator* are considered to be subspecies of *D. intermedius*, and a new subspecies *D. i. shanghaiensis* n.subsp. is described. *D. anchoratus* is similarly divided into *D. a. anchoratus*, *D. a. crassii* nom.nov., and *D. a. geei* n.subsp., here described. Part 3 records *Neodactylogyrus anguillae* n.sp. and *N. bini* n.comb on the gills of *Anguilla japonica* at Shanghai. Part 4 discusses the systematic relationship of *Ancyrocephalus* and *Haliotrema*. The form of the male terminal genitalia and especially of the accessory piece to the cirrus would seem to be a satisfactory differential character. *H. platycephali* n.sp. was found on the gills of all *Platycephalus indicus* caught in the Chusan region of the East China sea. Part 5 compares the Far Eastern and the European species, *Diplozoon nipponicum* and *D. paradoxum*.

R.T.L.

(492b) *Ichthyascaris lophii* n.g., n.sp. from *Lophius litulon* belongs to the Heterocheilidae and is closely related to *Raphidascaris*, from which it differs in having a well formed collar anteriorly, and muscular bands in the posterior region of the male. *Rhabdochona euchiloglanis* n.sp. from a catfish, *Euchiloglanis davidi*, in Szechwan differs from other species in the number of teeth at the mouth entrance and in the number and arrangement of the male caudal papillae.

R.T.L.

(492c) It is briefly mentioned [p. 141] that specimens of *Sagitta* sp. from Amoy contained larvae of nematodes, which probably become adult in sea birds.

R.T.L.

#### 493—South African Medical Journal.

- a. FAINSINGER, M. H., 1949.—"Pulmonary hydatid disease: the sign of the camalote." 23 (35), 723.
- b. TAYLOR, A. B., 1949.—"Radiological case book. XXVI. Large bowel obstruction by worms." 23 (45), 903.

## 494—Southern Medical Journal.

- a. TREUTING, W. L., 1949.—“Current concepts in the control and treatment of intestinal parasites.” 42 (8), 684–686. [Discussion pp. 686–687.]
- b. BRICENO ROSSI, A. L. & HEWITT, R., 1949.—“Treatment of Bancroftian filariasis with ‘hetrazan’ in Puerto Cabello, Venezuela.” 42 (11), 978–981.

(494b) There was a sustained reduction in the numbers of microfilariae in 16 patients treated for Bancroftian filariasis with hetrazan, with a thrice daily dosage of 2.0 mg. per kg. body-weight for one to four weeks. Two to nine months later all except one were negative for microfilariae. Clinical filariasis was alleviated in seven out of ten cases. J.J.C.B.

## 495—Stain Technology.

- a. DASS, C. M. S., 1949.—“Whole mounts of flat and round worms for morphological studies.” 24 (4), 229–230.

(495a) This technique consists in mounting the specimens in a drop of acid-fuchsin lactophenol on a slide and warming for six hours at 60°C. The acid fuchsin is replaced by light cotton-blue (aniline blue W.S.) in lactophenol until the desired contrast is obtained. The specimens are then mounted in pure lactophenol, the coverglass being sealed with equal parts of damar balsam and beeswax. R.T.L.

## 496—Sud Médical et Chirurgical. Marseilles.

- a. HECKENROTH, F., MATTEI, C. & MAYAN, L., 1949.—“Considérations à propos d'un cas d'échinococcose latente du foie.” 81 (2318), 1123–1124, 1126, 1128.

## 497—Tasmanian Journal of Agriculture.

- a. GREEN, R. J., 1949.—“When to drench sheep.” 20 (3), 190–192.

(497a) In Tasmania, Ostertagia is responsible for unthriftiness but not scouring in sheep. Liver-fluke, lungworms and Chabertia are also present. Haemonchus is uncommon except on the east coast and on King and Flinders Islands. The year 1948 was the worst for helminthiasis for many years. Lambs should be drenched at weaning time and in the autumn about three weeks after the rains begin. Drenching for liver-fluke should be done at about mid-February, the end of April and mid-July. R.T.L.

## 498—Technical Bulletin. Ministry of Agriculture and Fisheries. London.

- a. GOODEY, T., 1949.—“Laboratory methods for work with plant and soil nematodes.” No. 2, 19 pp.

(498a) Goodey has brought together information on laboratory methods and techniques applicable to plant and soil nematodes. Details of the procedures involved are grouped under the following main heads: collection methods; methods of killing, fixing, processing and mounting nematodes; methods of staining nematodes in plant tissues; agar culture-medium for nematodes; methods for infecting potato tubers with nematodes; dioxan process for paraffin embedding; measuring curved drawings of nematodes; line drawings for black and white reproduction; recipes for cements. T.G.

## 499—Tierärztliche Umschau.

- a. ERHARDT, 1949.—“Der Mandelsäureisoamylester (‘Mandaverm’), ein neues Wurmmittel für die Veterinärmedizin.” 4 (23/24), 387–388.
- b. NIEMAND, H. G., 1949.—“Kynoverm, ein neues Wurmmittel zur Bekämpfung von Endoparasiten beim Hund.” 4 (23/24), 388–389.

(499a) Erhardt reports that the iso-amyl ester of mandelic acid (sold under the trade name “Mandaverm”) is very efficacious against ascarids in foxes, cats, dogs and horses.



The therapeutic dose is extremely well tolerated by all animals and can be given in a single oral administration. Dosages are : for fox cubs, 0.5-1.0 c.c. per animal ; for cats, 0.5 c.c. per kg. body-weight ; for dogs, 1.0 c.c. per kg. body-weight ; for horses, 0.5-0.6 c.c. per kg. body-weight. The drug is administered by duodenal sound (to cats), by nasal sound (to horses) or in capsules (to dogs and foxes).  
A.E.F.

(499b) Niemand describes experiments carried out in Germany during the war with anthelmintics that were readily available. Tests led to the introduction in 1944 of a combination of arecolin, thymol and carbon tetrachloride [proportions not stated] to which was added atropine and castor oil. This mixture is now on the market under the trade name "Kynoverm" and is said to be effective against cestodes, hookworms, ascarids and coccidia in dogs. The dose for small dogs is given as 0.3 c.c. per kg. body-weight ; for other dogs a single dose of 3.4-5.1 gm. is sufficient.  
A.E.F.

#### 500—Tobacco. New York.

- \*a. ANON., 1949.—"Those 'nematodes' blamed for brown rootrot in leaf." 128 (3), 13.

#### 501—Toko-Ginecologia Práctica. Madrid.

- \*a. BEATO, V., 1949.—"Equinococosis génito-peritoneal femenina." 8 (73), 185-196.

#### 502—University of Wyoming Publications.

- a. DAGUE, M., 1949.—"The hydrolysis of proteins in the presence of cestodes." [Abstract of thesis presented for the degree of M.S. in Zoology, June, 1948.] 14 (1/4), 67-68.

(502a) Dague studied the action on proteins of *Dipylidium caninum*, *Thysanosoma actinioides*, *Taenia* sp. and *Moniezia* sp. Equal amounts of tapeworm substance were added to gelatin and casein ; "control" solutions were deactivated and equal amounts of pancreatin were added. In some experiments the tapeworms were placed in the solutions intact and alive, in others they were macerated. No substance in the cestodes was found to retard hydrolysis of the proteins, and there was evidence of acceleration of hydrolysis in the presence of cestode substance. The substance responsible for the acceleration appeared not to be secreted into the solution. Hydrolysis of gelatin was not accomplished by cestode substance at pH 4. There was evidence that body substance of *Thysanosoma* effected hydrolysis at pH 8.  
E.M.S.

#### 503—Urologic and Cutaneous Review.

- a. ARCADI, J. A., 1949.—"Bladder carcinoma and vesical schistosomiasis." 53 (8), 472-474.  
b. REDEWILL, F. H., 1949.—"*Strongyloides stercoralis* involving the genito-urinary tract." 53 (10), 609-614.

(503b) *Strongyloides stercoralis* produced a severe genital infection in two patients, a man and his wife, the symptoms in both cases being urticarial linear eruptions of the external genitalia. The woman had chronic cystitis and urethritis ; *Strongyloides* eggs were found in scrapings of eroded areas in the posterior urethra. Ulcerated areas of the urethra were treated with 0.5% gentian violet solution, with penicillin to control bacterial invaders. Freezing with ethyl chloride over a two-inch radius from the end of each wheal controlled the skin eruptions. 0.5% gentian violet intravenously on alternate days and hetrazan by mouth, 2 mg. per kg. body-weight, three times daily for three days, the treatment repeated four days later, completed the cure.  
E.M.S.

#### 504—Verslagen en Mededelingen van de Plantenziektenkundige Dienst te Wageningen.

- a. ANON., 1949.—"Voorschriften voor de bestrijding van de aardappelmoeheid." No. 112, pp. 1-9.  
b. ANON., 1949.—"Wet van 24 Juli 1949, houdende regelen ter bestrijding van de aardappelmoeheid (Wet bestrijding Aardappelmoeheid), Staatsblad nr J 233." No. 112, pp. 10-12.

- c. ANON., 1949.—"Beschikking Staatscourant 31 Augustus 1949, bestrijding aardappelmoeheid, 30 Augustus 1949, /Afdeling Wetgeving en Juridische Zaken/L.No.1649/51 A.M." No. 112, pp. 12-13.
- d. ANON., 1949.—"Beschikking Staatscourant 31 Augustus 1949, ontheffing verbod, bedoeld in artikel 2, lid 1, der Wet bestrijding Aardappelmoeheid, 7 September 1949 /Afdeling Wetgeving en Juridische Zaken/L.No.1650/51 A.M." No. 112, pp. 13-14.

(504a) This article forms a commentary on the new Dutch legislation for controlling potato sickness [the text of which is dealt with in the three following abstracts]. It explains why such methods as crop rotation are necessary to break the life-cycle of the potato eelworm and lays emphasis on the importance of preventing the spread of the parasite to uninfested land. A.E.F.

(504b) This is the text of the Dutch Potato Sickness Control Act promulgated in July 1949. It lays down the principle of a 3-year crop rotation and prohibits the growing of potatoes on infested land. It lays on the grower the responsibility for preventing the spread of infection to new land and gives directions for the taking of soil samples by officials of the Phytopathological Service. A.E.F.

(504c) This Order made under the 1949 Act [see preceding abstract] is mainly concerned with specifying crops which may cause the spread of potato sickness (bulbs, tree saplings, cabbage and kohlrabi plants, cuttings, and propagation material with adherent soil) and crops which may increase the eelworm population (tomatoes). It also specifies the lands on which cultivation of the above-mentioned crops is forbidden and allows for certain exemptions at the discretion of the Director of the Phytopathological Service. A.E.F.

(504d) This further Order made under the 1949 Act grants exemptions for 1950 and 1951 from the regulations relating to a 3-year rotation and allows potatoes to be grown under certain conditions in land where they were grown in 1949. Provision is also made for growing early potatoes (i.e. those lifted before 20th June) again on the same land after two years. Further discretionary powers are given to the Director of the Phytopathological Service to waive certain of the provisions of the Act. A.E.F.

### 505—Vestnik Oftalmologii.

- a. BOGDANOVA, G. V., 1949.—[Case of hydatid of the orbit.] 28 (4), 40-41. [In Russian.]

### 506—Veterinariya.

- a. SKRYABIN, K. I. & SHIKHOBALOVA, N. P., 1949.—[Soviet helminthology in the light of Michurin's doctrine.] 26 (5), 22-24. [In Russian.]
- b. NOSIK, A. F., 1949.—[Treatment of oesophagostomiasis and ascariasis in pigs.] 26 (5), 35-36. [In Russian.]
- c. SCHULZ, R. S. & BOEV, S. N., 1949.—[Subclinical forms of helminthiasis.] 26 (7), 16-17. [In Russian.]
- d. ERSHOV, V. S., 1949.—[Development cycle of *Strongylus vulgaris* in the horse.] 26 (8), 26-28. [In Russian.]
- e. IVASHKIN, V. M., 1949.—[Trial of phenothiazine against *Mecistocirrus* in cattle.] 26 (8), 29-30. [In Russian.]
- f. KORNIENKO, I. N., 1949.—[Male fern extract against *Hymenolepis* in geese.] 26 (8), 33. [In Russian.]
- g. LEIZERSON, N. A., 1949.—[Treatment and prophylaxis of kerato-conjunctivitis in cattle.] 26 (8), 41-42. [In Russian.]
- h. GNEDINA, M. P., 1949.—[Onchocerciasis of the hide of cattle and its control.] 26 (9), 31-32. [In Russian.]
- i. NIFONTOV, S. N., 1949.—[Importance of intra-uterine invasion in the epizootology of *Toxocara* infection in dogs.] 26 (10), 32-34. [In Russian.]
- j. BORGES, A. A., 1949.—[Arsenous oxide against ascariasis and strongylosis in the horse.] 26 (11), 30. [In Russian.]
- k. RYAZANTSEV, V. F., 1949.—[Treatment of parafilaria in horses.] 26 (11), 45-46. [In Russian.]



1. BUTORIN, F. S., 1949.—[Experience of the work of helminth diagnostic bureaux in regional veterinary hospitals.] 26 (12), 50-51. [In Russian.]

(506b) Out of 82 young pigs, 3-6 months old, 73 were found to be infected with *Ascaris lumbricoides* and all with *Oesophagostomum dentatum*. *Trichuris trichiura* was found in 7 out of 82. Adult pigs (farrowing sows) were infected only with *O. dentatum*. In pigs infected with *O. dentatum*, Nosik obtained good results by dosing with phenothiazine (0.1 gm. per kg. body-weight). Two doses were given with one day's interval between them. In the case of mixed infection (oesophagostomes and ascarids) pigs received the same dose of phenothiazine on the first day, and next day they were given in addition 0.05 gm. of santonin and 0.03 gm. of calomel per kg. body-weight. Nosik stresses the importance of control of oesophagostomes in farrowing pigs. C.R.

(506c) Schulz & Boev review some of the Russian literature on the treatment of helminths in sheep, cattle, horses, pigs and poultry, and draw attention to Taylor's (1942) approach to the subclinical forms of helminthiasis [for abstract see Helm. Abs., 11, No. 156a]. The control of subclinical forms by dosing is not only of economic importance but also tends to eliminate the "carrier" state. C.R.

(506d) Ershov investigated the life-cycle of *Strongylus vulgaris* in a series of experimentally infected adult horses and foals, and arrived at the following conclusions. Infection of horses takes place by swallowing infective larvae with food or water. Swallowed larvae pass through the stomach and small intestine and penetrate the mucous membrane of the large intestine. Most of them migrate between the muscular and serous layers and later between the laminae of the mesentery to the radix mesenterii. Here they penetrate into the lumen of the mesenteric artery, where they form a thrombus against the wall of the artery and remain there, growing and developing to the adult stage in 6-7 months. Males and females then leave the thrombus and are carried with the blood stream into the wall of the large intestine. Here they form nodules of the size of a pea or broad bean and eventually penetrate into the lumen of the large intestine. Some of the infective larvae, in penetrating from the lumen of the intestine, fall into the capillaries of the intestinal blood vessels and are carried into the liver, where nodules are formed around them and they eventually die. Some of the larvae pass from the intestine through the mesenteric vessels and find their way into the mesenteric lymph nodes, where they die. In intensive infections larvae may penetrate into the branches of the mesenteric artery, which are the main blood supply of the caecum and colon, and form aneurysms there: in some horses there may be up to 11 aneurysms. On the tenth day after infection of a foal, larvae of *S. vulgaris* were found in the lumen of the mesenteric artery, in the radix mesenterii and in the mesenteric lymph nodes. Aneurysms of the mesenteric and other arteries appeared on the 28th day after experimental infection, thrombi of considerable size being formed in the aneurysms and containing larvae of small size (1.5-2.0 mm. long). Two months after infection aneurysms may attain the size of a fist or assume an elongated form (20-30 c.c.) along the subvertebral and colonic arteries and may contain more than 800 larvae measuring 7-12 mm., without any sex differentiation and a poorly developed buccal capsule. Sex differentiation takes place 3½-4 months from the time of infection. Development of the buccal capsules takes place in larvae in the intestinal vessels, and is completed in four months from the time of infection. Larvae of *S. vulgaris* do not develop in the large intestine and only sexually mature worms are found there. *S. vulgaris* is not found in the intestine of foals up to the age of six months. Aneurysms of the cranial mesenteric artery were found post mortem in all horses, except foals less than two months old. Larvae are found in the aneurysms throughout the year. The highest numbers of larvae were found in the aneurysms in October, November, December and January, and the smallest numbers in April, May and June. The maximum number of larvae, in a horse naturally infected, was 473 in the cranial mesenteric artery; in other arteries of the intestine in the same horse 112 larvae were found. Aneurysms without larvae were found

in adult horses at various times of the year, the highest numbers of such aneurysms occurring in May, June and July. In January, February and March larvae in aneurysms are in the late developmental stage and are rarely of small size (up to 7 mm.). From April to July, sexually differentiated males and females are found in the aneurysms. Larvae of small size occur in large numbers mainly in August, September and October. Larvae of *S. vulgaris* differ from those of *S. equinus* and *S. edentatus* by the absence of cervical glands. In experimental infections it was found that larvae of *S. vulgaris* produce serious pathological changes in the host, particularly in foals, which may die in 10-28 days with symptoms of general sepsis. C.R.

(506e) In the summer of 1946 Ivashkin tested the efficacy of phenothiazine against *Mecistocirrus* in 30 slaughter cattle. He found that doses of 0.2 gm. and 0.1 gm. per kg. body-weight gave 100% efficacy. It is of interest to note that after giving a dose of 0.2 gm. per kg. he found worms passing in the faeces 26-34 hours later, after a dose of 0.1 gm. per kg. worms were passed 28-40 hours later, and after 0.075-0.05 gm. per kg. worms were passed 34-58 hours later. During a period of three years he treated 3,000 cattle infected with *Mecistocirrus*, with excellent results and no ill-effects. Phenothiazine was not effective against young forms of *Mecistocirrus*. C.R.

(506f) Kornienko obtained good results when he treated 3,285 geese with male fern extract against *Hymenolepis*. Adults received 1.0 gm. and young geese 0.2-0.6 gm., after 10-20 hours' fasting. The worms were passing after 1½-4 hours. C.R.

(506g) Leizeron treated kerato-conjunctivitis in calves, which he thinks was of thalazial origin, by bathing the eye with 0.5-1% of carbolic acid and afterwards applying 10% sulphidine ointment. In the following years as a prophylactic measure he bathed the eyes 2-3 times with 2-3% boracic acid. C.R.

(506h) Gnedina refers in her essay to *Onchocerca gutturosa* and *O. lienalis* as a common cause of reduction in the grade and value of cattle hides. She outlines the life-cycle of *O. gutturosa* and recommends the dusting of cattle with 10% D.D.T. during the swarming of *Simulium* in districts where *Onchocerca* commonly occurs. C.R.

(506i) Nifontov found that in kennels, 97.7% of puppies up to one month of age were infected with *Toxocara canis*. The first appearance of eggs in the faeces was on the 21st to 22nd day after birth. In 9 out of 11 stillborn puppies migrating larvae were found only in the liver. In those born alive he found that, 24-30 hours after birth, the larvae were migrating into the lungs and were all in the latter organ between 1½ and 6 days after birth. On the seventh day larvae were migrating into the intestine. Out of 450 dogs ranging in age from one to four years, *T. canis* eggs were found in 6.9%. C.R.

(506j) Borgens recommends the following doses of arsenous oxide against *Parascaris* and strongyles in horses: horses weighing up to 300 kg., 1.0 gm.; up to 400 kg., 1.5 gm.; above 400 kg., 2.0 gm.; and young horses one to three years of age, 0.5-1.0 gm. C.R.

(506k) Ryazantsev found that a 1.75% solution of tartar emetic in a dose of 100 c.c. given intravenously three times in one day was effective against parafilariasis in horses. He treated in this way 58 horses and the method was effective in 48 (82.7%). The same drug in lower concentrations was of small efficacy, while in concentrations higher than 1.75% the efficacy was not increased, but it had a toxic effect on some of the horses. He stresses the importance of purity of the drug. C.R.

(506l) Butorin in his report for 1947-48 states that 86,553 helminthological examinations were carried out in the Yaroslav district. He describes the organization set up to cover the district and stresses the importance of diagnostic centres in the control of helminths in domesticated animals. C.R.



## 507—Virginia Medical Monthly.

- a. SKINNER, H. L. & SMITH, R. R., 1949.—“Echinococcic cyst of the liver.” 76 (4), 178-181.

## 508—Wasmann Collector.

- a. LA RIVERS, I., 1949.—“Entomologic nematode literature from 1926 to 1946, exclusive of medical and veterinary titles.” 7 (5), 177-206.

(508a) La Rivers has collected the references to nematode-insect associations of every kind, except that of intermediate host for species parasitic in man and animals. The information thus compiled supplements a previous compilation by Van Zwaluwenburg in 1926. The bibliography includes 112 references.

E.M.S.

## 509—Wiener Klinische Wochenschrift.

- a. RISSEL, E. & HARTMANN, G., 1949.—“Ueber einen Fall von Clonorchiasis sinensis mit Gallengangskarzinom.” 61 (23), 355.

## 510—Wiener Medizinische Wochenschrift.

- a. BARDACH, F. P., 1949.—“Zur Oxyurentherapie.” 99 (41/42), 499.

(510a) Bardach recommends “Santoperonin”, a copper oxide naphthalene phenolate preparation. Overdosing is not possible since large quantities of the preparation have a prompt emetic action. Children are given a 0.01-gm. tablet, adults a 0.03-gm. tablet, three times daily for about eight days. Treatment is repeated six weeks later.

E.M.S.

## 511—Wiener Tierärztliche Monatsschrift.

- a. LIENERT, E., 1949.—“Kymographische Versuche über die Wirkung organischer Farbstoffe auf den grossen Leberegel (*Fasciola hepatica*).” 36 (11), 650-659.

(511a) Lienert has tested the *in vitro* effect of various organic dyes on *Fasciola hepatica* using a modification of Chance & Mansour's kymograph technique [for abstract see Helm. Abs., 18, No. 61a]. Of the 27 dyes tested, seven had a paralysing effect on the worms in concentrations of 1:1,000, namely Sudan III, trypan-blue, methyl violet, fluorescein, eosin, “Cholagnost” and “Cholumbral”. Eosin and fluorescein are considered to be the most promising. These substances are all excreted with the bile and are sufficiently non-toxic to vertebrates to be considered as potential anthelmintics.

A.E.F.

## 512—Wissenschaft und Praxis.

- \*a. KELLER, H. & LAWO, K., 1949.—“Kaninchen als Fleischfresser und Trichinenträger.” Year 1949, pp. 128-129.

(512a) Keller & Lawo found that rabbits are not completely herbivorous but will often eat spontaneously meat of all kinds. It follows that it may be possible for them to become naturally infected with trichinae. [From an abstract in *Berl. Münch. tierärztl. Wschr.*, 1949, No. 8, p. 108.]

E.M.S.

## 513—Zeitschrift für Hygiene und Infektionskrankheiten.

- a. GAASE, A., 1949.—“Immunisierungsversuch gegen Trichinose mit dem Schweineantigen. Ein Beitrag zu den Immunisierungsversuchen im Tierexperiment.” 129 (3/4), 439-443.  
 b. BAUMHÖGGER, W., 1949.—“Die Spulwurmerkrankungen in Darmstadt und Hessen vom Abwasseringenieur gesehen.” 129 (3/4), 488-506.  
 c. KREY, W., 1949.—“Der Darmstädter Spulwurmbefall und seine Bekämpfung.” 129 (3/4), 507-518.  
 d. GAASE, A., 1949.—“Der immunbiologische Nachweis der Trichinose bei Mensch und Tier.” 129 (5/6), 570-576.

(513a) Gaase fed guinea-pigs with muscle and brain from a fatal human case of trichinellosis. Some of the animals were given *Trichinella* pig antigen before feeding

and some after. Complement-fixation tests on the second, seventh and fourteenth days after infection showed no definite effect of the antigen on the survival of infection. Finally all the guinea-pigs were examined post mortem, and those animals which were given antigen before feeding with trichinous material were found to harbour fewer *Trichinella* than those which received antigen after feeding. Gaase compares this result with the "negative" phase of other infectious diseases. A.E.F.

(513b) Baumhögger gives a detailed account of the sewage disposal system of Darmstadt and the surrounding country, and discusses its effect on the very high incidence of human ascariasis in that area. Lack of suitable artificial manures has led to an increase in the use of nightsoil in agriculture and market gardening. From a careful study of the problem, Baumhögger draws the following conclusions: (i) the practice of using untreated sewage as manure in irrigation fields should be discontinued; (ii) only mechanical pre-treatment of sewage in sedimentation tanks will remove *Ascaris* ova; (iii) while ordinary methods of sludge treatment will not kill *Ascaris* ova, heating to 60°C. for five minutes has been found satisfactory. The contents of cesspits should also be subjected to this heat treatment. Sewage and sludge which have been treated by these methods can be used as manure without the risk of spreading *Ascaris* infection. State encouragement and financial assistance (perhaps enforced by legislation) will be necessary if the measures are to be effective. A.E.F.

(513c) Reports of very heavy and widespread human *Ascaris* infection in the Darmstadt area led to careful investigation during 1948. Krey states that of 7,296 persons examined, 40% were infected: the figures for individual areas vary from 89% infected of 394 persons (at Griesheim) to 11% of 336 (at Offenbach). There were 18 deaths from *Ascaris* infection during 1946-1948. Three main causes are adduced for this very serious situation: (i) general lack of hygiene as a result of post-war conditions; (ii) lack of suitable anthelmintics; (iii) use of untreated human faeces as manure where vegetables were grown [see preceding abstract]. Krey recommends more propaganda to stress the importance of both personal and public hygiene among the general public, mass anthelmintic treatment and suitable pre-treatment of sewage. A.E.F.

(513d) Gaase has found complement fixation, using pig antigen, to be the best method for immunobiological diagnosis of trichinelliasis in man. He has diagnosed thirteen human cases between the second and seventh days of illness, as also a 20-year-old infection, by this method. Intradermal tests and precipitin reactions are considered to be less reliable. Immunobiological tests for *intra vitam* diagnosis of *Trichinella* infection in pigs cannot yet be considered satisfactory, but when a suitable antigen has been developed such tests should prove valuable control measures and may even supplant the costly and laborious meat inspection methods. A.E.F.

#### 514—Zeitschrift für Parasitenkunde.

- a. NEUHAUS, W., 1949.—"Über die Entwicklungsdauer der Fledermaustrematoden." 14 (3), 269-273.
- b. PFLUGFELDER, O., 1949.—"Histophysiologische Untersuchungen über die Fettresorption darmloser Parasiten: Die Funktion der Lemnischen der Acanthocephalen." 14 (3), 274-280.

(514a) Neuhaus examined trematodes collected from bats taken mainly during hibernation. Species represented were *Plagiorchis vespertilionis*, *Lecithodendrium chilostomum*, *L. lagena* and *Prostotocus vespertilionis*, in the bats *Myotis myotis*, *M. mystacinus*, *M. nattereri*, *Plecotus auritus*, *Rhinolophus ferrum equinum* and *R. hipposideros*. From a study of the seasonal occurrence of various developmental stages, it is concluded that development of the parasites does not entirely cease during hibernation. E.M.S.



(514b) *Echinorhynchus ranae* removed from naturally infected *Rana temporaria* were fed to frogs known to be free of this parasite, each frog receiving five parasites which almost without exception established themselves immediately in the upper part of the small intestine, as shown by later observation. The frogs were then starved for six weeks, when examination of some of the parasites showed them to be fat-free and their lemnisci full of lacunae. The remaining frogs were then fed pork fat mixed with an equal quantity of Scharlach R, individuals being examined at intervals from 12 hours onwards. An intense red colour appeared first at the neck region of the proboscis. After four days the lemnisci contained numerous red granules. Finally the lemnisci became filled with fat occupying all the lacunae, most of the fibrillae being covered with fat. Fat resorption occurred only through the lemnisci and the neighbouring epithelium. E.M.S.

### 515—Zentralblatt für Allgemeine Pathologie und Pathologische Anatomie.

- a. GRUBER, G. B., 1949.—“Zum Vorkommen des *Echinococcus alveolaris* im nördlichen Deutschland.” 84 (10/11), 417-420.

### 516—Zentralblatt für Bakteriologie. Abteilung 1. Originale.

- a. MENDHEIM, H., 1949.—“Beiträge zur helminthologischen Technik. I. Mitteilung: Über die Brauchbarkeit der Loossschen Schüttelmethode nebst einigen Bemerkungen zur histologischen Technik.” 153 (1/2), 44-48. [English, French & Russian summaries pp. 47-48.]
- b. VOGEL, H. & MINNING, W., 1949.—“Hüllenbildung bei Bilharzia-Cercarien im Serum bilharzia-infizierter Tiere und Menschen.” 153 (3/5), 91-105. [English, French & Russian summaries pp. 104-105.]
- c. MENDHEIM, H., 1949.—“Beiträge zur helminthologischen Technik. II. Über den Nachweis des Wurmbefalls in vivo unter Berücksichtigung der einheimischen Helminthen.” 153 (3/5), 126-128. [English, French & Russian summaries p. 128.]
- d. MENDHEIM, H. & SCHEID, G., 1949.—“Morphologische und biologische Studien an Oxyuren.” 153 (8), 339-342. [English, French & Russian summaries pp. 341-342.]
- e. SCHLIEPER, C. & KALIES, W., 1949.—“Quantitative Untersuchungen über die Spulwurmvorseuchung der Bevölkerung im Landkreis Darmstadt.” 154 (1), 78-86. [English, French & Russian summaries pp. 85-86.]

(516a) Mendheim criticises the Looss technique for the recovery and preservation of intestinal helminths (vigorous shaking of intestinal mucus in a test-tube with salt solution and mercuric chloride): small worms can be easily overlooked, examination of living specimens is impossible, and fixation of worms entirely free from debris cannot be ensured. Mendheim describes his own method, the principle of which is that the whole contents of the small intestine are gently shaken up in a suitably sized vessel (about 30 cm. × 2 cm.) after diluting with water. Specimens can then be examined alive in a shallow dish over a dark background. Worms required for histological purposes should be fixed at once in mercuric chloride. Methods for fixing, staining, clearing and mounting helminths are also briefly described. A.E.F.

(516b) Vogel & Minning report that cercariae of *Schistosoma japonicum* and *S. mansoni* develop a thin homogeneous membrane on the surface of both body and tail when placed in sera of man, ape, dog, rabbit or mouse infected with *S. japonicum*, *S. mansoni* or *S. haematobium*. In some sera the membrane could be seen after 1-2 minutes, and after 15-30 minutes the membrane had reached maximum thickness (2-5 μ). Serum from cattle infected with *Fasciola* also caused membrane formation. The reaction was looked upon as an expression of an acquired immunity until it was found that the membrane had no effect on the viability or infectivity of the cercariae. Sera from patients who had shown no signs of schistosome infection for five to seven years reacted negatively. The authors believe that this membrane reaction may later be used as a diagnostic test for schistosomiasis: much more preliminary experimental work on human sera will, however, be necessary. A.E.F.



(516c) Mendheim briefly indicates the usefulness of techniques (which have been described in the literature) for the demonstration of helminths, helminth fragments and eggs in faeces, urine, spinal fluid, biopsy material, sputum, blood, duodenal fluid and finger-nail dirt. A.E.F.

(516d) Mendheim & Scheid made counts of *Enterobius* adults in stools from 37 infected persons. They found that 40.6% of stools had less than 10 worms, 45.3% had from 10 to 100, 12.5% from 100 to 500 and 1.6% over 500. The average proportion of males to females was 3 : 10. These figures are compared with those recorded by earlier workers. It is pointed out that the number of worms recovered at any one time bears no relation to subjective symptoms since worms are excreted in cycles. A.E.F.

(516e) Schlieper & Kalies describe their technique for the quantitative examination of faeces for *Ascaris* eggs: they estimated the intensity of infection by reckoning each 600 eggs per gramme of faeces as representing an infection of one worm. In the Darmstadt district (less Griesheim), where 39% of the inhabitants were infected, the average number of worms per infected person (of 98 examined) was 15; in Griesheim (90% of the inhabitants infected) the average figure was 45 worms per infected person (of 59 examined). Both of these figures are considerably higher than those given by earlier workers whose results are briefly reviewed. A.E.F.

#### 517—Zooleo. Leopoldville.

- a. DARTEVELLE, E., 1949.—“Les invertébrés des environs de Léopoldville. Les vers.” n.s. No. 2, pp. 15-23.

(517a) Darteville gives a popular account of the various groups of “worms”, including the Nematelminthes and Platyhelminthes, without any particular application to Belgian Congo conditions. R.T.L.

#### 518—Zooprofilassi.

- \*a. PEGREFFI, G., 1949.—[Distomatosis in sheep.] 4, 180-181. [In Italian.]  
 \*b. TASSI, L., 1949.—[Contribution to the case study of echinococcosis of the sternum in cattle.] 4, 287-288, 291-292. [In Italian.]

### NON-PERIODICAL LITERATURE

- 519—BOOKER, C. G., 1949.—“Public health bacteriology and parasitology.” Johannesburg : Central News Agency (London : Gordon & Gotch Ltd.), xiii+254 pp., 35/-.

- 520—CHANDLER, A. C., 1949.—“Introduction to parasitology, with special reference to the parasites of man.” New York : John Wiley & Sons, Inc. (London : Chapman & Hall, Ltd.), 8th edit., xii+756 pp.

- 521—DEPARTMENT OF AGRICULTURE FOR SCOTLAND, 1949.—“Scheme for the inspection of growing crops of potatoes, 1949.” Edinburgh : Department of Agriculture for Scotland, 4 pp.

The certificates A.(Scot.) and A.(Scot.)N.I., H.(Scot.) and H.(Scot.)N.I., S.S.(Scot.) and S.S.(Scot.)N.I., and Grade B Reports, which are issued by the Department of Agriculture for Scotland in respect of purity and freedom from disease, are granted in respect of growing crops of potatoes which, among other conditions, “are free from visible infestation with potato root eelworm”. The roots of a number of plants in each crop inspected are examined to determine whether there is visible infestation. Reports indicating their unsuitability for use as seed are issued in respect of “all crops with plants showing on examination of the roots that they are not free from visible infestation”. R.T.L.



- 522—DIAS, C. B., 1949.—“Quimioterapia antimonial na esquistossomose mansônica.” Thesis, Minas Geraes, xiv + 348 pp.

This thesis reviews the pathology and clinical manifestations of infection with *Schistosoma mansoni*, the laboratory techniques for diagnosis and the various chemicals and methods of treatment which have been tried. Dias has studied in detail the effect of intravenous and intramuscular injections of antimonials and the electrocardiographic changes associated with intensive administration.

R.T.L.

- 523—\*DYKSTRA, R. R., 1949.—“Animal sanitation and disease control.” Danville, Ill.: The Interstate Press, 2nd edit., 792 pp., \$3.50.

- 524—HEELEY, W., 1949.—“‘D-D’: a soil fumigant against *Heterodera marioni* in the United Kingdom.” International Congress of Crop Protection (2nd), London, 1949. Abstracts of Communications, No. 86, pp. 96-98.

Heeley reports excellent control of *Heterodera marioni* by soil injections of D-D mixture at 400 lb. per acre, in 20 tomato glasshouses in which heavy infestations had not been eliminated by steaming. The completeness of control and the increase in the ensuing tomato crop were closely dependent on soil conditions and thoroughness of application. No adverse crop effects followed a repeated injection of D-D in the following year. B.G.P.

- 525—\*HEMMERT-HALSWICK, A., 1949.—“Trichinen, Bandwürmer und andere Schmarotzer.” Dresden: Deutschen Hygiene-Museums, 47 pp., D.M.-80.

- 526—JOHNSON, M. L., 1949.—“Famous animals 2: the tapeworm.” New Biology, No. 7, pp. 113-123.

- 527—McKAY, R., 1949.—“Tomato diseases. An illustrated guide to their recognition and control.” Dublin: At the Sign of the Three Candles, 107 pp., 21/-.

In a short chapter devoted to eelworms, McKay describes symptoms in tomato due to attack by *Heterodera marioni* and *H. rostochiensis*, and gives brief descriptions of the parasites. Methods of prevention and control of the diseases are given. Brief mention is made of attack by the stem and bulb eelworm on tomato but this has not so far been recorded in Ireland.

M.T.F.

- 528—MORGAN, B. B. & HAWKINS, P. A., 1949.—“Veterinary helminthology.” Minneapolis: Burgess Publishing Co., ix + 400 pp., \$7.00.

- 529—PEARSE, A. S. [Editor], 1949.—“Zoological names. A list of Phyla, Classes, and Orders.” Durham, N.C.: American Association for the Advancement of Science, Section F, 4th edit., 24 pp., \$0.25.

- 530—PESSÔA, S. B., 1949.—“Parasitologia médica.” São Paulo: Editora Renascença S.A., 2nd edit., 997 pp.

- 531—PESSÔA, S. B., 1949.—“Problemas brasileiros de higiene rural.” São Paulo: Indústria Gráfica José Magalhães Ltda, 582 pp.

- 532—REPORT. NAVAL MEDICAL RESEARCH INSTITUTE. Bethesda, Maryland.

- a. KUNTZ, R. E., STIREWALT, M. A. & EVANS, A. S., 1949.—“The susceptibility of golden hamsters to *Schistosoma mansoni*.” Project X-535, Report No. 21, 11 pp.
- b. EVANS, A. S. & STIREWALT, M. A., 1949.—“Variations in infectivity of cercariae of *Schistosoma mansoni*.” Project X-535, Report No. 22, 12 pp.

(532a) Kuntz, Stirewalt & Evans report that the golden hamster is a suitable host for the maintenance of *Schistosoma mansoni* in the laboratory for the provision of great numbers of well developed adult worms and viable eggs for investigational and other purposes. Mortality from infection can be prevented by exposing the animals to 200 cercariae or less, the infected animals being isolated to prevent fighting and cannibalism. The maximum numbers of worms are recovered at eight to ten weeks after exposure.

Evidence of a natural resistance to infection was detected. Wide variations in degree of infection, established experimentally, are attributed to variations in the infectivity of cercariae. P.L.ler.

(532b) Evans & Stirewalt report on the variation in infectivity of cercariae of *Schistosoma mansoni* in an inbred strain of mice. Statistically significant variation in the worm load was found when mice were exposed at different intervals to cercariae from experimentally infected *Australorbis glabratus*. The experimental mice were of approximately the same age and were exposed to the same degree of infection. The variations in the degree of infection encountered at autopsy are attributed to variations in the infectivity of the cercariae. It is suspected that these variations are directly related to the physiological state of the snails during the maturation of the cercariae. P.L.ler.

533—VERONA, O. [1949].—"Elementi di microbiologia pedologica." Florence: Luigi Macri, xi+587 pp., L.2,800.